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ABSTRACT

This review of the literature was undertaken as background preparatory to the design of a survey program to ascertain the extent of women's nonparticipation in postsecondary education and apparent reasons for it. The proportions of women who participate in degree programs have changed very little in the past 40 years. Institutional barriers are found to be in admissions practices such as sex quotas and age restrictions, financial aid practices, institutional regulations (e.g., credit for nonclassroom learning, housing policies), curriculum planning and student personnel services, and faculty and staffing attitudes. Situational barriers, or social constraints, are seen as those effects of class, ethnic or racial group membership, family attitudes, domestic responsibilities, place of residence, and community attitudes. Psychological factors include the current status of theories regarding the psychology of women, sex differences in intellectual functioning, attitudes of women toward themselves and in relation to others, motivation for achievement, and psychological correlates of socialization practices. (LBH)

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BARRIERS TO WOMEN'S PARTICIPATION IN POSTSECONDARY EDUCATION

A REVIEW OF RESEARCH AND COMMENTARY AS OF 1973-74

Esther Manning Westervelt

(From an original draft by Ruth B. Ekstrom, now expanded, updated, and extensively revised)

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FOREWORD

The National Center for Education Statistics (NCES) is pleased to make available this review of the literature on barriers to women's participation in postsecondary education. The review was undertaken as background preparatory to the design of a survey program to ascertain the extent of women's nonparticipation and apparent reasons for it. These materials seem valuable to statisticians, researchers, educators, planners, and other interested persons in sufficient measure to warrant the publication at this time of the review, even though changes in the legislation have been made since the review was prepared in 1973-74.

The literature review and survey design were developed in cooperation with the Women's Action Program in the Department of Health, Education, and Welfare. The initial work was carried out under contract with NCES by the Educational Testing Service (ETS) of Princeton, New Jersey. Dr. Esther Westervelt, Simmons College, under a separate contract, worked with the initial materials to develop and write the present review report. Dr. Marion Lord of the Education Division was the project monitor and worked with both the ETS and Dr. Westervelt.

Leslie J. Silverman
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I. INTRODUCTION

EXTENT AND MAGNITUDE OF THE PROBLEM

In the United States, young women are more apt than are young men to complete secondary school—1,286,087 males and 1,302,938 females graduated from public high schools in 1970 (39).* However, fewer women than men continue their education beyond the secondary level. This trend, which has persisted since the early years of this century, is projected to continue at least through 1958 (39).

There is more documentation of sex differences in participation in higher education than for other types of education beyond high school. However, women are underrepresented as students in most types of post-secondary education, especially in those leading to a certificate or a degree. The exceptions are programs offering preparation for such "women's occupations" as nursing, elementary school teaching, home economics, beauty culture, and clerical trades, and undergraduate programs in which women have traditionally enrolled, such as the humanities.

The proportions of women who participate in degree programs have changed very little in the past 40 years. In 1930, women earned 40 percent of bachelor's, first professional, and master's degrees, and 15 percent of doctoral degrees. In 1970-71 women earned 42 percent of bachelor's and first professional degrees, 40 percent of master's degrees, and 14 percent of doctoral degrees (7). Moreover, as Pullen (194) noted: 'Among students capable of college level work, 65 percent of the men enter college and 45 percent graduate. Among women of comparable ability, only 50 percent enter and 30 percent graduate." In some institutions, attrition rates are higher for women than for men. A 1970 University of Chicago study (253), involving withdrawal patterns over 3 successive academic years, revealed that consistently more women than men withdrew and that, although women comprised 51 percent of full-time graduate students, they received only 33 percent of the Ph.D.'s.

Those women who do pursue higher education tend to be concentrated in a few fields. According to Parrish, in 1969, 80 percent of women's bachelor's degrees were taken in 10 fields, with the major concentration of degrees in education (36 percent) and in the humanities (45 percent). At the master's level, 52 percent of all women's degrees were in education and nearly 85 percent were in education plus humanities (187). In Husband's study (118), 49 percent of the doctorates received by women in 1968-69 were in education, psychology, English, and literature. In the same year, according to Chase (174), no woman received a doctorate in forestry, law, geophysics, metallurgy, or meteorology. The Carnegie Commission on Higher Education reported that only 8 percent of medical school students in 1970 were women (41).

The National Center for Education Statistics (NCES) report, *Earned Degrees Conferred, 1970-71* (181), provides a clear picture of women's current patterns of participation in higher education. Essentially, this report shows that women receive the majority of bachelor's degrees in only 8 of the 24 discipline divisions listed: Fine and applied arts (60 percent), foreign languages (75 percent), health professions (77 percent), home economics (97 percent), letters (61 percent), library science (90 percent), area studies (53 percent), and education (74 percent). On the other hand, women received only 12 percent of the degrees in architecture and environmental design, 9 percent of those in business and management, 14 percent of the degrees in the physical sciences, 1 percent of those in engineering, and 5 percent of those in law.

In fields where women hold the majority of the bachelor's degrees, they receive a smaller proportion of the degrees awarded at the master's and doctoral levels. For example, in fine and applied arts, women received 60 percent of bachelor's degrees, but only 47 percent of master's degrees and only 22 percent of doctoral degrees; in foreign languages, 75 percent of bachelor's degrees and 65 percent of master's degrees, but only 38 percent of doctoral degrees, were earned by women; in the health professions, women received 77 percent of bachelor's dgrees, 55 percent of master's degrees, and 17 percent of doctoral degrees. In letters, 61 percent of bachelor's degrees, but 23 percent of doctoral degrees,

*Throughout this report, all numbers in parentheses refer to the corresponding numbered items in the bibliography.

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went to women. In library science they received 90 percent of bachelor's degrees but only 28 percent of doctoral degrees. Of first professional degrees, women in 1970-71 received only 1 percent of those in dentistry, 9 percent of those in medicine, 8 percent of those in veterinary medicine, and 7 percent of those in law (181).

Sex differences in the attainment of associate degrees and other formal awards below the baccalaurate level in 1970-71 show a similar trend in another NCES report (180). In programs of 2 or more but less than 4 years, in science- or engineering-related curriculums, women earned only 38 percent of the associate degrees or other awards. They earned 47 percent of such degrees in non-science- and non-engineering-related curriculums. In programs of at least 1 but less than 2 years, women earned 55 percent of the degrees awarded in science- and engineering-related curriculums and 69 percent of those awarded in non-science- and non-engineering-related curriculums. Women are thus overrepresented in the shorter, less-demanding programs and underrepresented in longer programs that lead more readily into higher-paying employment or further education.

Trends are similar in vocational and technical education in proprietary as well as publicly supported institutions. According to Wolman and her colleagues (184), half of the students in proprietary and nonproprietary training programs for "growth" occupations were female, over 80 percent of them in office and health fields. Over 80 percent of the males were in computer and technical areas, where pay and status are higher. Lee and her colleagues (139) reported that women made up only 9 percent of the enrollment in technical programs and only 11 percent of the enrollment in trade and industrial programs. Johnstone and Rivera (121) found that at any age level and at any stage of the life cycle, men were more apt than women to be enrolled in adult education courses for credit and certificates, diplomas, or degrees.

Women's participation in the professions and in the labor force as a whole reflects these patterns. From 1960 to 1971 the female labor force grew by over 9 million, an increase of one-third over the growth rate registered in the preceding 13 years (251). In the health fields, where four-fifths of all employees are women, only 6 percent of them are physicians and surgeons and only 1 percent are dentists (41). In 1960 less than 1 percent of engineers were women (206). In light of the steady increase in women's labor force participation over the past two decades, these patterns appear paradoxical. For the past 20 years the numbers of educational institutions, especially colleges and universities, have been increasing. The 1971-72 *Education Directory* (182) list 2,626 institutions of higher education. Between 1947 and 1968 the number of junior colleges increased from 480 to 802 (39). Programs have increased in variety as well as in number at all levels, from the vocational and technical offerings of community colleges through the undergraduate and graduate levels.

The increase in educational opportunities is reflected in an increase in educational participation, with the overall participation of women increasing somewhat faster than the participation of men. In the academic year 1969-70, the participation of men in higher education increased by 6 percent, while that of women increased by 9 percent. In the academic year 1970-71, participation of men increased by 3 percent and that of women by 6 percent (183).

At institutions awarding associate degrees and other formal awards below the baccalaurate level, we find a somewhat different pattern. In programs of 2 or more but less than 4 years with science- or engineering-related curriculums, during 1969-70 the participation of men increased by 41 percent and that of women by 49 percent; but in programs of at least 1 but less than 2 years with science- or engineering-related curriculums, the participation of men increased by 74 percent while that of women increased by 24 percent. In non-science and non-engineering-related curriculums, in programs of 2 or more but less than 4 years, the participation of men increased by 3 percent and that of women by only 1 percent. In these same curriculums, in programs of at least 1 but less than 2 years, the participation of men increased by 34 percent, but that of women by only 11 percent. Thus, it is clear that the participation of men is increasing more rapidly than that of women in associate degree and comparable programs offering awards below the baccalaurate level.

These patterns just discussed are particularly disturbing in light of women's rising need for skills as they enter the labor force in every increasing numbers, of their increasing tendency to move into fields previously closed to them, and of their growing desire to take advantage of educational opportunities, particularly at the associate degree and graduate levels.

FACTORS AFFECTING WOMEN'S PARTICIPATION

The variables that account for the underrepresentation of women in postsecondary education are of three fairly distinct types: (1) Policies and practices within

educational institutions that actively discriminate against women or fail to encourage and support their entrance and/or continuance; (2) social constraints in the life situations of many women which mitigate against their participation in educational programs; and (3) psychological and social factors prevalent in our society that result, for some women, in negative attitudes and expectations about postsecondary education.

This report is a review of research and commentary concerning variables that raise barriers to women's postsecondary education. The first section will deal with institutional variables, the second section with social constraint variables, and the third with psychological variables. The various factors are not independent of each other, but are interactive and as such can and do negatively influence a woman's decision to continue her education. Unfortunately, the research and commentary pertinent to these three constellations of variables do not neatly fall within categories; therefore, when overlap is unavoidable, detailed discussion of a particular point or issue will be confined to the section where it is most relevant.

The literature on institutional and social constraint variables will receive a greater share of attention than that on psychological variables because: 1) Some of the obstacles these two constellations of variables present to women's participation in postsecondary education can be removed through new legislation, more effective implementation and enforcement of existing legislation, and new departures in educational planning, and 2) this review reflects a companion survey of a national sample of women and of postsecondary institutions that was designed primarily to identify institutional and social barriers to women's pursuit of postsecondary education.

Peripheral research areas (e.g., women's patterns of labor force participation, sex discrimination in employment, women's career development patterns, biological and social sex differences) are highlighted in order to provide adequate treatment of the major theme. But since the literature relating to women's participation in postsecondary education, outside of higher education, is relatively sparse, references and commentary relevant to higher education will tend to predominate. Finally, an effort has been made to review all major relevant studies as well as a representative selection of more limited studies that deal with questions not considered in the larger ones. The most recent research and commentary have been emphasized.

II. INSTITUTIONAL BARRIERS

There are five major sets of institutional factors that tend to exclude women from education beyond high school: (1) Admissions practices, (2) financial aid practices, (3) institutional regulations, (4) deficiencies in curriculum planning and student services, and (5) faculty and staff attitudes.

The combined effect of these factors has been noted by a variety of sources concerned with equal educational opportunity for women. For example, the Newman report (171) recommended reforms to remove the barriers to women that are built into the institutional structure of higher education:

> Requirements for residency, full-time enrollment, credit transfers and the like should be overhauled to accommodate the needs of many women for flexible scheduling.
>
> Student aid programs and credit arrangements—which are often administered to conform to the requirements mentioned above—must be similarly designed with women in mind.

ADMISSIONS PRACTICES

In higher education, the most obvious area of discrimination against women is admission standards that differentiate between the sexes (176). Until recently many institutions directly discriminated against women applicants through such practices as sex quotas and "equal rejection rates" and through the overt or implied attitudes of admissions personnel and faculty. They continue indirect discrimination through such practices as age ceilings for applicants, limitations on part-time study and transfer of credit, and the association of eligibility for admission with putative eligibility for job placement after graduation, particularly in vocational and technical training programs.

Title IX of the Education Amendments of 1972 is directed toward the elimination of sex discrimination in admissions at certain types of institutions. These include vocational institutions receiving public funds, graduate and professional institutions, and public undergraduate institutions. (The legislation does not apply to single-sex institutions. However, when an undergraduate institution becomes coeducational, it must comply with the provisions of the legislation within 7 years.) Exempt from the provisions are private undergraduate institutions, the undergraduate colleges of private universities, public merchant marine and military academies, and religious institutions where religious tenets conflict with the purposes of the Act. In a recent letter to institutions affected by the Act, the Office for Civil Rights, U.S. Department of Health, Education, and Welfare (DHEW), stated: "Non-discrimination does not imply that your institutions must or will accept students of either sex in any particular number or proportion, but it does mean removal of all obstacles, based on sex, to admission of students" (185).

Title VII and title VIII of the Public Health Service Act of 1971 also lower admissions barriers for women. They prohibit sex discrimination in admissions at all institutions receiving or benefiting from a grant, contract, loan guarantee, or interest subsidy for health personnel training programs under these titles.

To what extent this recent legislation will actually alleviate the difficulties women experience remains to be seen. The effectiveness of the provisions of the Public Health Service Act of 1971 could be undermined by a decrease in Federal funding for some of the programs covered by the Act. However, as mentioned previously and as will be discussed, there are many factors other than those incorporated in formal policies which operate to facilitate or impede the admission of certain types of students.

Sex Quotas for Admissions

There is strong evidence that admissions standards are, in practice although not in stated policy, higher for women than for men in many institutions of higher education. For example, surveys conducted over the period 1968 through 1972 by The American Council on Education (ACE) (7-12) of more than a million

entering college freshmen showed that more than 40 percent of the women but less than 30 percent of the men admitted to 4-year public colleges had a B-plus or better average in high school. Of the total sample of 188,900 entering freshmen surveyed in 1972, 44 percent of the women, but only 29 percent of the men, had high school grade point averages of B-plus or better. Furthermore, 50 percent of the women, but only 38 percent of the men, were in the top quarter of their high school classes. The surveys also revealed that entering women students were more likely than entering men students to have been high achievers in all types of extracurricular activities, except science contests and varsity athletics.

In a study conducted by Werts in the fall of 1961 (261) involving 127,125 male and female students in 248 4-year colleges, it was found that women with relatively low grades were much less likely to attend college than were men with equally low grades. The ACE study indicated that this tendency still prevailed in 1972. Werts also found that girls with low grades who were from low socioeconomic backgrounds were less likely to attend college than were girls with low grades from high socioeconomic backgrounds or boys with low grades from either type of background.

Walster, Cleary, and Clifford (258) studied discrimination at 240 colleges and universities. Each school was sent an application containing randomly assigned information regarding race, sex, and ability level, with other application information held constant. Males were markedly preferred over females for admissions at the low ability level, but this difference disappeared at the medium and high ability levels. They concluded:

> . . since there are more young people, both male and female, at the lowest of our ability levels than at the higher levels, it is clear that, overall, women are discriminated against in college admission. The significant sex-by-ability interaction is in accord with the feminist observation (and complaint) that only a truly exceptional woman can ever hope to transcend sexual stereotypes and to be judged on an objective basis. A woman with modest abilities continues to be judged as first and foremost a woman, and thus an "inferior."

The most vivid illustrations of the ways in which quota systems discriminate against women are to be found in selective institutions in transition from single-sex male colleges to coeducational status. For example, at Princeton University in 1970 only 14 percent of the female applicants but more than 22 percent of the male applicants were admitted (168). As a result, the women who entered Princeton in 1970 were, as judged by objective standards, academically more able than the men:

> Nintety-seven percent of the entering women had high school grade averages of B-plus or above. The same was true of the men. None of the female respondents reported an average below a B. Four and two-tenths percent of the males did. As the *Alumni Weekly* concluded from this and other data in the report . . . 'on the whole, Princeton's women are smarter than the men.' One might also conclude that some of the women who were not admitted were 'smarter' than some of the men who were (168).

Institutions like Princeton may, under title IX of the Education Amendments of 1972, maintain admissions quotas by sex for some years. Similarly, other private colleges like Vassar, which is beginning to admit men, move very slowly toward some balance in the representation of the sexes. During the 1972-73 academic year, after several years of coeducation, only about 30 percent of Vassar's students were male. For the most part however, the establishing of quotas for males is *not* to set higher standards for admission since women students receive significantly higher grades in high school than do men (55).

Single-sex institutions in transition to coeducation generally justify the slow pace of transition in two ways: (1) The differences in the courses elected by men and women, and (2) the resulting changes necessary in the faculty. There are, of course, other considerations, such as alumni attitudes, illustrated, for example, by alumni reactions to the introduction of coeducation to Yale. To quote from one indignant alumni letter published in the July 1966 issue of the *Yale Alumni Magazine*:

> . . . gentlemen -- let's face it -- charming as women are -- they get to be a drag if you are forced to associate with them each and every day. Think of the poor student who has a steady date--he wants to concentrate on the basic principles of thermodynamics, but she keeps trying to gossip about the idiotic trivia all women try to impose on men . . . . (141).

On the issue of sex differences in preferences for subject matter areas, the previously cited Parrish and

ACE studies (187, 7-12) do show that women students are more interested in humanities and less interested in sciences than men. These preference are not found at all institutions. For example, when the freshmen entering Princeton in the fall of 1970 were asked to state their probable major fields, 7 percent of the women, but only 4 percent of the men, expressed interest in the biological sciences; 12 percent of the women, but only 6 percent of the men, chose mathematics or statistics as their probable major (169). The author also noted that the percentages of women who majored in economics at Smith and Wellesley were comparable to the percentages of men that did so at Princeton. At Simmons College, a single-sex women's institution, a strong trend away from humanities majors and toward science majors has persisted for about 7 years (221).

At least until the passage of the Education Amendments of 1972, discrimination against women in admissions, often through quota systems, occurred in public as well as private colleges. Examples were cited in the 1970 hearings of the House Special Subcommittee on Education (137). For instance, as a result of quotas for the admission of women at the New York State School of Agriculture at Cornell University, the SAT scores of entering women averaged 30 to 40 points higher than those of entering men. Quotas employed for the admission of women to the University of North Carolina at Chapel Hill resulted in acceptance of only one-fourth of the female applicants and half of the male applicants; and at Pennsylvania State University, a male was five times more likely to be accepted than a female.

According to Murray (165), "Official segregation of the sexes serves the function of maintaining the privileged position of the dominant male group." At the time of the Federal court case of *Kirstein vs. The Rector and Visitors of the University of Virginia*, women were admitted to only a very few programs and not admitted at all to the College of Letters and Sciences. The court held that exclusion of women violated women's constitutional rights under the equal protection clause of the Fourteenth Amendment. Cross (55) has also pointed out that arbitrary sex quotas operated to place a ceiling on the number of qualified women admitted while allowing the admission of men with lower qualifications. Since women tend to achieve higher grade averages than men in secondary school, discrimination could prevail even when sex quotas for admissions are half and half.

Documentation on differential admissions standards for men and for women is available from sources such as *The College Handbook* (46) and from charges brought against colleges and universities by such organizations as the Women's Equity Action League (WEAL) and the National Organization for Women (NOW).

The Education Amendments of 1972 will have some ameliorating effect in public undergraduate coeducational colleges and in vocational, graduate, professional, and health services personnel training institutions. However, private undergraduate colleges, which include some of the Nation's most prestigious institutions, can continue to set admissions quotas by sex. In the opinion of informed leaders in women's education, the existence of undergraduate admissions quotas for women affects the quality of the educational experience. Bunting, Graham, and Wasserman (35) pointed out that "the benefits of coeducation for both sexes depend upon a substantial rather than a token number of women in the student body and the greater the imbalance, the greater the adverse effects on both sexes."

At least one study documents the effects on women students of being a minority in a coeducational institution. In a report containing data gathered by first-hand observations and interviews during the first year of coeducation at Yale, Lever and Schwartz (141) noted the difficulties encountered by women students who felt forced to fit into a "male" mode of performance at Yale.

These criticisms of sex quotas in admissions should not be construed as an attack on the single-sex college that has chosen to design an educational program for men only or for women only. In fact, since women's colleges offer women opportunities to participate in higher education free from the strong male influence that predominates at almost all coeducational institutions, they may be the only educational institutions currently able to offer a "feminist" education—an education which prepares women to be self-reliant and to accept leadership responsibilities, and which emphasizes what Gloria Steinem calls "personhood" for women. However, according to Wilson (269), the number of women's colleges has declined sharply in recent years, from 300 in 1960 to 146 in 1971. The number of men's colleges is also shrinking, from 261 in 1960 to 101 in 1971.

There is a difference of opinion about the value of the education that women receive in women's colleges. Millett and Husbands have contended that women's colleges offer separate and unequal educational opportunities (157, 118). They stated that somen's colleges offer a relatively low level of academic quality compared to men's colleges or to coeducational schools.

Such opinions have been sharply challenged in public statements by presidents of women's colleges, including David Truman of Mount Holyoke, Edward Eddy of Chatham, Thomas Mendenhall of Smith, and Barbara Newell of Wellesley. They have also been challenged by research findings. Newcomer (170) found that graduates of the seven leading women's colleges were significantly more apt to be listed in *Who's Who of American Women* than were women graduates of comparably selective coeducational schools. Among 1,500 women listed in the 4th, 5th, and 6th editions of *Who's Who of American Women* (500 selected at random from each edition), Tidball (240) found an approximate two-fold difference between women's colleges and coeducational colleges in their output of achieving women. She also found a correlation of -.937 between the number of women achievers and the percentage of men enrolled in colleges. As the percentage of men students increased, the output of women achievers decreased proportionately.

Equal Rejection Rate

Often advanced by institutions (especially graduate institutions) as evidence that they do not discriminate by sex, the "equal rejection rate" is a system in which men and women applicants are sorted into separate categories in order that equal proportions of each group may be accepted. This system, however, ensures that, on the average, the women admitted are better qualified than the men. Hunter (117) found that 68 percent of the women but only 54 percent of the men admitted to graduate schools had an undergraduate average of B or better.

Testifying before the House Special Subcommittee on Education, Dr. Frances Norris remarked that separating men and women applicants into discrete categories and rejecting an equal percentage meant that "women rejected from the small female applicant pool were equal to or better than men accepted and that they were rejected because their sex quota was filled." The Harvard report (105) noted the relatively small pool of women applicants and commented that "if women applicants are a more highly preselected group, they may be a more able and more highly motivated group. Equal treatment of such a group would result in the acceptance of a higher percentage of them." The low proportion of women applicants to graduate school may also reflect a lack of effort on the part of the schools to recruit women. In any case, the equal rejection rate is, in effect, a system of sex quotas in admissions.

Attitudes Toward Women Students

In testimony before the House Special Subcommittee on Education (61), Dr. Frances Norris stated that, in interviews with 25 admissions officers at northeastern medical schools, 19 acknowledged that they accepted men in preference to women unless individual women were demonstrably superior. Komarovsky (134) has also charged that professional schools often admit inferior male applicants in preference to superior women.

As statistics cited earlier indicate, women are a minority among undergraduate and graduate degree recipients (a very small minority among those earning doctorates) and their proportions as members of these groups have changed little over the past 40 years. During the decade and a half between 1940-41 and 1965-66, the number of women applying to medical schools nearly tripled, while the number of men applying increased by only 50 percent. However, during approximately the same period the proportion of women among successful applicants increased only from 5 percent to 8 percent (13). The effects of recent legislation, especially the health legislation of 1971, are demonstrated by the increased percentage of women in entering medical school classes in 1971 (20 percent) as compared to 1970 (14 percent) (43).

To some extent, the smaller proportions of women students, especially at the graduate level, reflect attitudes and beliefs of colleges and universities concerning women's educational behaviors. Two beliefs common among personnel in higher education which have been contradicted recently are: (1) Women are more likely to drop out of school and not complete their education, and (2) women fail to use their education after they have received it.

Some institutions report as dropouts all students who do not complete their education at the reporting institution. Thus women, who are more apt than men to move from one institution to another because of marriage, or to break the continuity of their education because of marriage or childbearing, are likely to be counted as dropouts although they may complete their studies elsewhere. An ACE survey in the summer of 1970 collected followup data from 35,000 of 185,000 students who had been included in the Council's survey of entering freshmen in the fall of 1967. After 4 years, 60 percent of the 1967 freshmen had obtained a degree and another 30 percent expected to get one later. The Council noted that these statistics suggest that as many as 70 to 80 percent of college students eventually earn a degree, rather than the usually estimated 50 percent (6).

Astin (19) found that 91 percent of the 1,958 women who received their doctorates in 1957-58 were employed. Studying 1,764 women Ph.D.'s who received their degrees between 1958 and 1963, Simon, Clark, and Galway (226) found the employment rate among these women to be high: 96.37 percent of the unmarried women in the sample, 90.7 percent of the married women without children, and 83.8 percent of the married women with children were working. Moreover, the scholarly productivity of the women Ph.D.'s was comparable to that of men: 57.5 percent of the men had published at least one article, compared to 57.9 percent of the unmarried women, 66.2 percent of the married women without children, and 63.9 percent of the women with children.

The ACE survey just cited revealed that the degree aspirations of women were more apt to increase during the undergraduate years than were those of men. The proportion of men planning to obtain a graduate degree increased from about 43 percent to nearly 49 percent while, among women, the proportion increased from 39 percent to 50 percent. On the other hand, a special report on women and graduate study conducted by the National Institutes of Health (NIH) (168) found that although over 72 percent of women earning bachelor's degrees in 1961 planned to attend graduate or professional schools, 3 years later only 42 percent had enrolled.

At the undergraduate level, the gap between rates of college attendance for men and women between the ages of 18 and 21 may be closing, according to a population survey by the U.S. Bureau of the Census (193). The reason for this change, however, is a decline in the proportion of 20- and 21-year-old men entering college (from 45 percent in 1969 to 36 percent in 1972), while the proportion of young women remained stable. This may be a temporary phenomenon stimulated primarily by reduced threat from the draft. At the graduate level, an overall rise in applications increases demand for places at a time when Federal and institutional cutbacks in funding reduce available places in some institutions and programs. This condition would tend to aggravate sex discrimination, however covert. However, due to recent legislation and to the establishment of affirmative action programs on campuses, overt systems of sex discrimination should be abandoned at all levels. Declining enrollments in many colleges can enhance women's opportunities. But at graduate and professional levels, discrimination in recruitment activities (as contrasted with stated policies)—in the weighting and rating of applicant's qualifications by admissions officers, and in the subtle lack of encouragement given women students during admissions interviews—may continue because of the influence of traditional attitudes toward women students. These kinds of discrimination are difficult to document.

Age Restrictions

Another common source of discrimination in admissions is the reluctance or refusal of schools to admit students who are over a certain age, typically 35 or 40. Lyon (147) stated that a number of universities refuse to accept applicants over age 35 for graduate programs. While such an admissions policy ostensibly discriminates against both men and women, women are much more likely to be affected since they frequently interrupt their undergraduate education or postpone graduate education for marriage and the care of young children. Some women are able or willing to return to school only after their family responsibilities decrease as their children enter school (140).

Women are more apt than men to delay education until they reach the middle years of life—about age 35 to 40. Johnstone and Rivera (121) found that participation rates in adult education were lower for women than for men before age 35 but were virtually identical after that age; women were more likely than men to take their first adult education course after age 40. Hunter (117) reported that 6 percent of male graduate students and 16 percent of female graduate students did not begin graduate study until 10 or more years after receiving the baccalaureate. Annual reports of centers for the continuing education of women (e.g., at the University of Michigan, University of Minnesota, Sarah Lawrence, Simmons) indicated that the mean and median ages of women entering these programs have recently declined sharply from the high 30's to 30 or below. Since many of these students are undergraduates and attend part-time, they would be seeking admission to graduate school at an age near or above the age ceiling.

Of 28 women aged 40 or over who received doctorates from the University of Wisconsin between 1963 and 1968, Lord (145) found that 21 percent decided to pursue doctoral study when they were between ages 35 and 39, 36 percent between ages 40 and 44, and 18 percent between ages 45 and 49. Age restrictions on doctoral study would have prevented these women from obtaining their goals.

The Modern Language Association (160) found that about 40 percent of surveyed graduate departments had policies on the enrollment of older students.

Randolph (199), who reviewed the literature on mature women in doctoral programs, found age discrimination in admissions—many universities made it a policy to attempt to "discourage" women applicants who were 35 years of age or older from applying to doctoral programs. She also interviewed faculty and administrative officers at institutions offering programs in continuing education for women. Department heads and graduate schools deans indicated that applicants over age 40, either male or female, were not encouraged to enter any program that might require 4 or 5 years to complete. One graduate school dean stated that, at 35, "a woman is much older than a man." Another said that a woman at 45 is "entering the throes of the menopause and thus would be useless to the profession." Randolph concluded that age was, but should not be, a factor prohibiting admission to a program.

At the first major conference on continuing education Blackwell (30) remarked:

> Some college trustees and administrators seem to have a built-in adolescent bias and a corollary prejudice against mixing adults with regular students of so-called college age. In some instances there are unfavorable faculty attitudes toward adult women as students.

At least a few affirmative action plans include a prohibition against discrimination by age with regard to students as well as employees. But until this policy becomes more widespread, women students will continue to be the prime victims of age discrimination.

Part-Time Study

Schools which refuse to accept part-time students or which create obstacles for them actually discriminate against women. Although the practice applies to both sexes, women are more likely to be affected because their family responsibilities frequently make full-time study impossible.

The Modern Language Association (160) found that 39 percent of the departments they surveyed prohibited part-time graduate study. According to the Oltman report (186) of an Association of American University Women survey, 95 percent of the 750 colleges and universities covered offered degree programs in continuing education for women; but as Mattfeld (150) pointed out, only 49 percent of these made concessions in such things as rate of work or class hours to fit the needs of adult women.

Hunter's study ('17) of over 15,710 graduate students at 68 institutions found that 67 percent of the women covered by the study were part-time students; twice as many of these women had enrolled part-time in their first year as had enrolled full-time and, in succeeding years, 44 percent of them continued on a part-time basis. Of 4,149 women who were the wives of students, faculty, and staff at the University of Illinois, Hembrough (109) found that 80 percent of the wives not attending classes and 50 percent of those attending classes said that part-time enrollment was or would be necessary for them to matriculate or to continue in school. Bunting, Graham, and Wasserman (35) stated that, although Harvard no longer had any rule against part-time graduate students, some department staff or heads still told applicants that there was such a rule. LeFevre (140) concluded from interviews with 35 mature women graduate students at the University of Chicago that:

> . . .accepting degree students on a part-time basis, funding part-time study, and examining scholarship and loan policies with the needs of women with children and of older as well as younger students in mind would enable more women to remain in school throughout the childbearing years or to return to school earlier. . .
>
> The woman who takes six or seven years to combine part-time degree work with childbearing. . .becomes socialized into the professional role and into combining work and family responsibilities. Furthermore, her husband and children are also socialized gradually into her work pattern.

Riesman (202) said that we "need enormously greater flexibility for part-time study. There are many graduate institutions which won't allow people to take degrees part-time, a tacit form of discrimination, which is hard on married women and on working wives." Myers (167) pointed out that many women with husbands and children must attend college either part-time or not at all; they "simply cannot carry a full-time schedule and do justice to it." Cless (44) stated that "part-time study must be recognized as natural, desirable and just as effective as full-time study." Cohen (45) also recommended part-time study programs to facilitate continuity of education for women.

At the moment some institutions actually penalize part-time students by charging them a higher rate per

credit hour or by stipulating a minimum fee per semester, which typically represents at least half of a full-time credit load. However, new patterns are emerging which will facilitate and accelerate the academic progress of the part-time student. Models for external degree programs have been developed or are being developed in various sections of the United States; most of these are described by Valley (254). They do or will provide undergraduate and graduate education to students who cannot or will not make a full time commitment to traditional, in-house degree programs. These programs will receive added impetus from the report of the Commission on Nontraditional Study (201), established by the College Entrance Examination Board and financed by a grant from the Carnegie Corporation. The major recommendations of this report were recently released and will soon be published. They urge a nationwide effort involving existing colleges and universities as well as new institutions in the development of new programs designed to provide "basic, continuing, and recurrent education" to adults 18 to 60 years old on terms and within structures which will fit their varying needs. Mature women and some younger women (especially those who marry early) are among the groups who can benefit from the expansion of nontraditional programs.

Transfer of Credit

Difficulty in transferring credit from one institution to another is a problem that mobile students often face, whether they are male or female. The difficulties appear more common for women, however, especially for married women obliged to move by the demands of their husbands' employment. Men usually have more control over their mobility.

"Women with previous college courses often find universities unwilling to accept transfer credit" (194). In her study of 288 married women students in New Jersey who had resumed education to prepare for teaching jobs, Ruslink (208) found frequent difficulties in transferring credit. The difficulties were intensified by New Jersey's restrictions on the number of qualified transfer students to be admitted to State colleges. Shoulders (222), in a study of 187 women over age 22 attending junior colleges in Missouri, also found that transfer of credit presented a problem. Myers (167) recommended the modification of such rules as those of Temple University which disallowed transfer credit for courses completed more than 10 years before the date of admission.

The rapid proliferation of community colleges has increased educational opportunities for women by providing educational centers within commuting distance of home neighborhoods. However, the transfer of credit from junior to upper division colleges presents certain difficulties. Knoell and Medsker (132) found that a significant obstacle was limitation of the amount of credit transferable (which may be as high as half the total program). In a survey of a limited sample of institutions, Thomas (238) found that only two in five notified the student regarding transferable credit at the time of acceptance.

From January through June 1971, the College Level Examination Program (CLEP), which provides college credit by examination in participating institutions, received 146,000 requests for information. By June, the office was receiving 2,500 requests a week. This response suggests widespread difficulty in obtaining college credit. (Some of these respondents were, however, seeking credit by examination for experience rather than for previous college work.)

Cless (44) pointed out that educational institutions are accredited by six Regional Accreditation Commissions of Higher Education which are linked in a national federation "where, one gathers, fairly uniform standards of academic quality are agreed upon. Given these circumstances of voluntary submission to the periodic scrutiny of one's peers, it might be expected that credit for similar courses at different institutions would be automatically interchangeable..." Cohen (45) recommended that "admissions policies be redesigned so as not to penalize qualified women returning after an absence of several years. Credit transfers, residence requirements, even application forms and testing procedures, should reflect new concern for individual situations and be designed to encourage women applicants." This subject is discussed further under Credit by Examination and Credit for Nonclassroom Learning.

Job Placement Possibilities as a Factor in Admissions

A final type of discrimination in admissions, which probably occurs most often in vocational and technical training programs, is the refusal or reluctance to admit a woman to a course, department, or program because she will presumably have difficulty in finding employment in that field. Wolman, Campbell, Jung, and Richards (184) surveyed training programs for office occupations, health occupations, computer occupations, and technical occupations. Although over 97 percent of the males and over 91 percent of the females surveyed were enrolled in coeducational insti-

tutions, over 80 percent of the males were in computer and technical programs and over 80 percent of the females were in office and health programs. It is interesting to note that over 11 percent of the males but less than 3 percent of the females expected to earn $851 or more a month in their chosen fields. These findings are not a simple reflection of sex discrimination in admissions, since parents, high school teachers, guidance counselors, and friends exerted some influence on students' choices of programs, reflecting the effect of sex role stereotyping on occupational choices.

FINANCIAL AID PRACTICES

For both men and women, lack of money is one of the greatest barriers to all types of postsecondary education. However, it is not merely financial need *per se*, but also the variables which are included and excluded in the process of developing definitions or measures of financial need, which are critical determinants of which individuals and groups may be barred from access to education for lack of financial assistance. Decisions which bar certain types of students (especially part-time students) or students in certain programs, from access to necessary financial aid, present insuperable obstacles to the continued education of some students. Women undoubtedly comprise the largest group of students whose needs are partially excluded from consideration by the present boundaries of financial aid.

According to frequent allegations, the institutional practices most responsible for denying women equal access to financial aid for postsecondary education are: (1) Making scholarships, fellowships, and loans more available to men than to women; (2) restricting financial aid to full-time students only; (3) withholding financial aid from women who are married, pregnant, or mothers; (4) failing to provide an adequate variety of deferred payment plans; (5) failing to provide financial aid for child care and other expenses; (6) limiting employment opportunities for women students; and (7) imposing different cost bases or charges for male and female students, or for part-time and full-time students.

Sex Bias in Awards

At both the national and the institutional level, women are less likely to receive financial assistance in the form of scholarships, fellowships, and loans than are men, although the extent of sex difference in awards varies considerably from institution to institution and from program to program.

On the national level the data can be quite misleading. In the study of selected programs in proprietary and nonproprietary vocational and technical programs in four major U.S. cities by Wolman and others (184), almost 49 percent of the students in the surveyed programs were females. However, they were heavily concentrated in the less technically complex programs (office and health occupations) which tend to be shorter-term and less expensive. Twenty-three percent of the men, but only 8 percent of the women, were in programs more than 24 months in length; 32 percent of the men but only 3 percent of the women were in programs costing more than $2,500. Patterns of financial aid have to be examined in the light of these differences.

More men than women in this sample depended on full-time or part-time employment as a major source of support for study—23.8 percent of the men and 18.2 percent of the women needed full-time work, and 25.0 percent of the men and 15.9 percent of the women needed part-time work. A somewhat larger proportion of men depended on savings—15.5 percent, compared to 12.3 percent of women. On the other hand, a larger proportion of women reported parental assistance as a major source of support—31.8 percent, compared to 20.3 percent of men. But a larger proportion of men (16.0 percent) than of women (9.0 percent) reported that NDEA or other federally secured loans were a major source of support. The most dramatic sex difference was in major support from G.I. benefits (either own or spouse's); 22.8 percent of the men but only 1.5 percent of the women reported these benefits as a major source of support.

There were no significant sex differences in the importance of Federal work-study programs, school loans (including deferred payment plans) and other loans, or Federal scholarships or vocational study grants. Yet a larger proportion of women (51.5 percent) than of men (43.5 percent) reported that "I am confident I will have enough funds" to complete the program. This greater confidence of women in their ability to may may be the function of the tendency of women to enroll in shorter and iess expensive programs, and their likelihood to have more financial support from parents. On sources of support other than parental assistance, there were either no marked sex differences or men received more support.

Similar patterns in sex differences in sources of financial aid appear in undergraduate and graduate education. Feldman found, for example, that women

graduate students have more support from parents and from spouses.

In her discussion of DHEW's financial support for education, Kayden (176) stated that testimony in 1970 before the Special Subcommittee on Education of the House Committee on Education and Labor (61) revealed that women then received 43.3 percent of the National Defense Student Loans, a proportion which approximates their representation in the undergraduate population. (These loans are also made to graduate students.) Women also received 49.0 percent of the work-study money, 36.5 percent of guaranteed loans, 40.2 percent of Equal Opportunity Grants, as well as 20.0 percent of NDEA fellowship money. Kayden (176) noted her impression, in interviews with students and admissions personnel in various regions, that "women are consciously discriminated against in grant and loan decisions" and that "many women do not attend school because they do not have the necessary financial support, and it is impossible to know at this time how the statistics might alter if the finances were available."

Rossi (203), in her discussion of financial support for women in graduate education, noted similar patterns:

> Slightly more than a third of both women and men receive stipends from their graduate institutions. On the other hand, academic performance both in college and graduate school has been shown in numerous studies to be uniformly superior among women compared to men. If sheer merit was the basis for stipend support, then one might expect a *higher* rate of institutional stipends to be granted to women. That there is no sex difference in the level of support does not by itself therefore mean there is no sex discrimination in this aspect of graduate training...
>
> The criticial difference between the sexes in financial support is the tendency for women to rely more than men on parents or spouse and men more than women on self-employment. Roby points out that graduate student men have access to better paying jobs than women do, which makes part-time employment more feasible for men, and cautions that we really need to know more about the psychology of dependency that may be encouraged in women graduate students who rely on parents and spouses for support of their graduate studies.

Some studies of sex differences in financial aid have shown more clear-cut patterns of sex discrimination. According to 1970 testimony before the Special Subcommittee on Education of the House of Representatives (61), women comprised 33 percent of the Nation's graduate students in 1969, but they received only 28 percent of the graduate awards under NDEA title IV and 29 percent of the awards under NDEA title VI. Hunter (117) reported that 49 percent of male graduate students but only 37 percent of female graduate students received such stipends. A special report on women and graduate study (168) revealed that only one-quarter of the women enrolled in graduate study received stipends, compared to almost one-half of the men.

Atwood's 1972 study (20) of prestigious fellowship programs found that about 80 percent of the awards in nearly 70 of these programs have been going to men. However, this difference was not entirely an outcome of a sex bias in awards, since, in all but 11 of the programs, women represented less than 25 percent of the applicants. In about 45 percent of the programs studied, the percentage of women students was significantly higher than that of women fellowship applicants, suggesting a tendency among women to set higher standards for themselves as applicants (with the result that female applicants may tend to be more highly qualified than male applicants). But in about 28 percent of the programs surveyed, the percentage of women recipients was less than the percentage of women applicants. In the remaining 28 percent the percentage of female recipients was close to the percentage of female applicants.

Atwood's report recommended: (1) Wider publicity for the programs channeled to reach women; (2) revision of fellowship descriptions to make clear that female applicants are welcomed (e.g., use of "he or she" rather than "he" in references to applicants); (3) development of policies and practices which would guard against sex bias in the selection process; and (4) relaxation of maximum age and full-time study requirements.

In a national survey of 3,363 college sophomores in 1969-70, Hawley and Horch (107) found that the average award to men was $1,001 but only $786 to women, in spite of the absence of significant differences in socioeconomic and income levels between the two groups. The average institutionally administered scholarship or grant was $671 for men and $515 for women. Student employment awarded as part of institutional financial aid packages paid an average of $712 to men and only $401 to women. Loans were the only type of

aid that women were apt to receive in larger amounts; the average college loan to women was $491 and $303 to men. Although comparable proportions of men and women were in debt for college, the mean debt for women exceeded that for men in all types of institutions.

National patterns of sex differences in financial aid also result from the significant number of sex-restricted scholarships, fellowships, and loans. At Cornell, for example, only 15 percent of such awards were restricted to women in 1969 (137). Sex-restricted awards available to men's colleges have exceeded both in numbers and amounts those available to women's colleges, largely because of the greater number, size, and wealth of the more prestigious men's colleges. Many of these male institutions have only recently begun to admit women and in proportions which are, for the time being, limited.

A significant amount of money is awarded for athletic scholarships, which women rarely receive. In some institutions the funds set aside for male athletes are extremely large and receive strong support from alumni.

Because the enlistment of women in the military is limited by statute and women were less subject to the draft, women have been far less apt than men to benefit from ROTC, NROTC, and veteran's educational (G.I.) benefits. Nor are our military academies really open to women yet, despite recent assaults by young women and their Senators and Representatives on the exclusion of females.

Although national patterns of financial aid favor the male, institutional patterns vary. The Report of the Subcommittee on the Status of Academic Women on the Berkeley Campus (27) found that women graduate students encountered various difficulties in obtaining financial aid, although 81 percent of female applicants, as against 78 percent of male, received aid. These women reported being told by faculty that women students were not serious enough to receive financial aid, that women students must be more qualified than men if they were to receive financial aid, that women students were more likely to drop out and thus should not receive financial aid, and that age, marital status, and/or motherhood disqualified them from receiving financial aid. For example, "a detailed study of one social science department showed that divorced women receive more aid than married women, and that least aid went to women with children."

Murray (165) described the discrimination against women students at New York University Law School and discrimination in the awarding of scholarships at Cornell:

> The Women's Rights Committee of the New York University Law School submitted a statement pointing out that until the women's groups pressed for reforms in 1969, N.Y.U. had totally excluded women, for more than 20 years, from the prestigious and lucrative Root-Tilden and Snow Scholarships. Twenty Root-Tilden Scholarships worth more than $10,000 each were awarded to male "future public leaders" each year. Women, of course, can't be leaders, and N.Y.U. contributed its share to making that presumption a reality by its exclusionary policy. A similar charge against Cornell University stated that the Cornell catalogue lists scholarships and prizes open to Arts and Science undergraduates totaling $5,045 annually to be distributed on the basis of sex. Women are eligible to receive only 15% or $760 of this amount, compared with $4,285 for men.

The Report of the Committee on University Women of the University of Chicago (252) revealed no clear-cut sex discrimination in financial aid at that university. However, the Committee's data were incomplete, in part because department records were lacking. Data covered men and women applicants for aid who had been given a favorable decision on admission and the fraction of these who were offered aid. The Committee stated:

> . . .the overall pattern that emerges . . . is one in which women somewhat less frequently than men were offered aid. In twenty-four of the forty-two departments covered by the table the fraction of women applicants offered aid was less than the corresponding fraction for men. These data do not establish conclusively that there is a tendency in the graduate departments to give preferential treatment to men in the awarding of fellowships and scholarships. Some departments undoubtedly give preference to students who declare themselves to be Ph.D. candidates over those who declare for the master's degree, and the fraction of women declaring for the master's may be higher than the corresponding fraction for men. Also the data in the table do not control for the quality of the applicant. Even more important, the data deal only with numbers of persons offered aid rather than with amount of aid offered, and no consideration is given to aid (including research assistantships) offered to students after their entry into the University. . . .

> We did query departments regarding their aid policies, and most of them reported that they allocate financial aid strictly on the basis of merit. A few, however, state the judgement that women are less likely than men to complete the Ph.D. . . . or the judgement that among Ph.D.'s women are less likely than men to make full use of the training . . . and that accordingly scarce fellowship money should be given more frequently to men. . . . It is also worth noting that the Committee received a number of complaints from women students that their respective departments were discriminating against women with respect to financial aid.

This Committee's report points up the complexities of assessing the extent of sex discrimination in financial aid at any given institution as well as the interaction of the contributing factors.

For example, financial aid may be withheld from women, especially at the graduate level, on the assumption that women are less apt than men to complete their programs of study. But the Harvard study (104) found that "women are not now nor were in the past dropping out a higher rate *if given equal opportunities.*" Eckert and Stecklein (69) suggested that lack of financial aid may help explain why fewer women than men obtain the doctorate. Eleanor Dolan (64) stated that "lack of money has been a limiting factor. . . . there has been a reluctance to grant women scholarships, fellowships, or assistantships partly because the discontinuity in women's use of advanced training has not been properly evaluated." Also, as Harris pointed out, women's higher dropout rate may be in part a function of the fields in which they are typically enrolled, fields in which men also have a high dropout rate (173). Other factors also contribute to sex differences in receipt of financial aid. One, of course, is our national failure to channel women into fields where large amounts of aid are available (e.g., the physical sciences). Riesman (202) has suggested another; i.e., fear on the part of faculty members that a women will not serve "the professor himself as a disciple" as might a man.

The sex differential in distribution of financial aid undoubtedly affects some groups of women students more than others. Married women with family responsibilities are one such group. Goodwin (93) suggested that funds be channelled into the support of scholastically superior women "to ease some of the financial stress that occurs between family commitments and educational requirements." Less affluent women comprise another group which is particularly affected by lack of financial aid. Ruslink (208), who found financial factors a particularly significant hindrance for lower class women, argued that financial aid is particularly justified for such women because the ultimate financial benefits from their continued education are inversely proportional to the family financial status. Cope (50) found that family income had no apparent effect on the attrition rate of men but that women from homes with an income of less than $10,000 dropped out of college more frequently than did women from wealthier families.

Thus, available data tend to show national patterns of sex differences in the award of financial aid. There are variations among fellowship programs, among institutions, and even among departments within institutions, but the overall pattern suggests discrimination against women. There are, however, indications of the emergence of forces which will begin to reverse the trend. For example, affirmative action programs can guard against sex discrimination in academic practices and policies; to be effective, however, these will require leadership dedicated to their implementation. Heightened awareness of discrimination on many campuses has led to the formation of committees to deal with the problem, as at the University of Chicago and the University of California at Berkeley.

The recently released report of the Newman Commission on graduate education includes a recommendation that "the bulk of Federal fellowships should be distributed directly to students on the basis of intellectual and creative promise" and "not be tied to particular fields or institutions" (185). Such fellowships would be "portable"; i.e., a student would choose the institutions at which to study and, if he or she decided to transfer, could take the fellowship along. A companion grant to the institution would accompany the fellowship to motivate the institution to attract fellowship holders, regardless of sex or ethnic background. Fellowships would be awarded solely on the basis of merit, thus reducing discrimination by sex or other social characteristics and also bypassing the "old boy" system that at present contributes to discrimination.

Although new plans and new proposals are promising, most have yet to be actively implemented. Until they are, those patterns of discrimination may be only slightly alleviated.

Restriction of Aid to Full-Time Students.

The dearth of scholarships or fellowships for part-time

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students, although it creates barriers for both men and women, serves as a more critical barrier for women. Randolph (199) cited several studies that indicated the need for more loans, fellowships, and scholarships for part-time students and the publicizing of such assistance through mass media and community organizations. Ruslink's study (208) of mature women students also indicated that the need for a marked increase in financial aid prevented many potential part-time students from continuing their education. Shoulders (222) reported that junior college women cited the lack of financial aid for part-time study as a major difficulty.

National Defense Student Loans are not available to students enrolled for less than half time (and "half time" is differently defined by different institutions). Until the passage of the Education Amendments of 1972, Educational Opportunity Grants and College Work-Study programs were available only to full-time students; under the Amendments such awards would be prorated on the basis of hours of attendance. Most federally funded fellowships (e.g., from the National Science Foundation and the National Institutes of Health) are for full-time study. According to Kayden (176):

> The existing legislation limits eligibility for (federally) subsidized loans and grants to those who are enrolled as either full- or half-time students. A married woman with young children may not be able to attend school on a full- or even half-time basis, so even if she were willing to borrow money, in all likelihood she would not be able to receive the assistance available to others.

Two new programs established by the Education Amendments of 1972, the Basic Opportunity Grants and State Student Incentive programs, were to be open to both part-time and full-time students. However, funds for Basic Opportunity Grants for part-time students were not appropriated; these awards are restricted to students from the lowest income levels and, to date, have been extremely small (270). The State Student Incentive program has not been implemented. If operated according to the legislation, these two programs would provide aid for study in accredited public and proprietary vocational and technical schools, as well as in colleges and universities.

The report on women at the University of Chicago (252) noted that the provision of special funds for women students with family responsibilities should be carefully studied and that departments should be prepared to facilitate a transition from full-time to part-time when necessary. Jacobson (119), in a description of the A.W.A.R.E. scholarships for mature women for junior college education, quotes Russell Lewis, director of the evening division of Santa Monica City College: "In the main, scholarships have been for full-time students, and this does reduce the number of married women who are eligible, since most of them are not full-time students." The Attwood report (26) on prestigious fellowship programs, which was prepared for the Association of American Colleges, recommended relaxation of requirements that fellowship recipients study full-time.

Komarovsky (134) urged that colleges and universities rescind the rules that make part-time students ineligible for financial aid. During the 1970 hearings of the Special Subcommittee on Education of the House of Representatives (61), Dr. Bernice Sandler commented:

> Practically all Federal scholarship and loan aid is for full-time study—a practice that works to virtually eliminate married women with families from receiving such aid, since they need a part-time schedule. Indeed, many schools forbid or discourage part-time study, particularly at the graduate level, thus punishing women who attempt to combine professional training and home responsibilities simultaneously.

Mitchell (158) summarized the literature relating to the women doctoral candidate:

> There is more and more insistence that women be given financial assistance for their studies and that part-time study be recognized as legitimate in establishing eligibility for fellowships, scholarships, and loans.
>
> Institutions of higher education are being challenged to remove those restrictions which discriminate against mature women who wish to study for the doctorate, and their personnel are asked to receive these women without prejudice.

The lack of financial aid for part-time study cannot be due to an absence of models. Some continuing education programs for women (e.g., University of Michigan, University of Minnesota) provide women students with stipends for part-time study. The stipends are modest because they are not supported by any major public or private source of funds.

In developing and awarding grants, women's organ-

izations like the American Association of University Women (AAUW) and the Business and Professional Women's Association (BPWA) take into consideration the special problems of women, including the need for part-time study. The latter organization has a particularly interesting program for vocational and technical training aid as well as higher education assistance. But the present sources do not meet even a small percentage of the need for part-time study assistance.

Effect of Marriage and Pregnancy on Eligibility

According to Tobias, women at some institutions have been refused financial aid because of pregnancy or marriage (242). A case was reported in the Berkeley study (252) in which a professor cut off funds to a married graduate student in the biological sciences when she became pregnant, stating: "You should be home caring for your family." (The student took a teaching assistantship which added to her burdens and delayed the completion of her program.) The report on women at the State University of New York at Buffalo recommended that "No woman shall be denied equal scholarships or financial aid on the ground of sex, marriage or possible marriage, pregnancy or possible pregnancy" (217).

However, it seems likely that the discrimination in awards of financial aid against women who are married, pregnant, or mothers is at least as apt to be indirect as direct; that is, lack of support for part-time study is undoubtedly as critical a factor in barring financial aid to such women as is direct discrimination.

Deferred Payments

Some institutions require that students pay the entire costs of a semester's study at the time of enrollment, with no provision for a series of payments over a semester or a longer period; this is particularly common for evening and other part-time adult education programs. This policy may be more limiting for women than for men since women typically have less access to money, especially if they are married. Ruslink (208) concluded from a study of mature women students that flexible payment arrangements were needed in continuing education.

Aid for Child Care

Child care expenses are a particularly significant item for married students, as indicated in the report on women at the University of Chicago (252). Shoulders (222) noted the need for child care expense aid, especially for poor women attending schools that do not provide child-care facilities (schools providing such facilities are still in the minority). Goodwin (93) concluded from a study of doctoral candidates that "stipends should be made available which are intended to provide women with the financial resources to buy the 'time' to pursue graduate study while maintaining their domestic responsibilities."

Many forms for estimating the amount of needed financial aid do not permit students to include costs of child care as an education-related expense. (The Business and Professional Women's scholarships are an exception). Kayden (176) notes that child care centers may be a necessary condition for full female participation in education and that educational institutions should receive Federal support for such centers. However, Federal legislation to date has been chiefly concerned with child care services for impoverished mothers.

Limits on Employment Opportunities

Men and women are proportionately represented among recipients of Federal work-study aid. However, in work-study programs generally, women receive less help than men in finding part-time employment and often receive lower-paying types of employment. At the University of Chicago, of the 30 percent of women and 36 percent of men who received assistance from faculty in finding jobs in 1969, 64 percent of the men but only 49 percent of the women found jobs relevant to their fields of study. Feldman (81) analyzed data collected in 1969 by the Carnegie Commission on Higher Education from approximately 33,000 respondents; he reported that men were more likely to receive teaching or research assistantships and women were more likely to receive fellowships. Feldman's report does not include data on amounts of aid.

Sex Differences in Cost Bases and Charges

A common form of financial aid is the lower tuition charged State residents at State colleges and universities. Women students who marry nonresidents may lose the benefit of this provision in those States which rule that a wife's legal domicile is that of her husband. In 1969, 32 States allowed exceptions only for wives legally separated from their husbands or establishing residence for divorce (127). Still unresolved is the relation between a student's residence for voting (which may be the State in which the student is

attending school even if his domicile is elsewhere) and residence for determination of tuition. In 1969, only 15 States allowed a wife to establish a domicile different from her husband's for purposes of voting (126).

Another obstacle is a legal provision in some States that married women cannot borrow money without the husbands' permission and signature on a note or mortgage. Although this legal prohibition exists *in only a minority of States*, in practice many banks and other credit-granting agencies will not lend money to a married woman without her husband's signature even for a mortgage on property solely in her name. This practice has been documented by the National Organization for Women and other women's groups.

In summary, female students at all levels generally have less access to financial aid than do male students. Some discrimination occurs before the point of application for aid, via the expressed attitudes of faculty and administrative personnel. Other discrimination excludes women from certain types of aid, particularly aid associated with military service and athletic scholarships. Indirect discrimination takes the form of lack of financial assistance for the special needs of women such as child care, and legal restrictions on the domicile and contractural rights of married women. It is not surprising, therefore, that women are more apt than men to depend on aid from parents and spouses.

INSTITUTIONAL REGULATIONS

Even after a woman has been admitted to an educational institution and has procured the necessary financial support, she will still encounter many obstacles in her pursuit of education. All too many colleges, universities, graduate schools, continuing education programs, and vocational and technical training institutes have rules and regulations that increase her difficulties. Some regulations may have negative effects on older women students, others on younger women, and some on both groups.

Among the policies and practices which raise barriers to women's postsecondary education are rules and regulations pertaining to: (1) Credit-by-examination or credit for nontraditional learning; (2) residency, attendance, size of course load, time limits for completing programs, and enrollment in particular courses; and (3) housing. Because these all vary widely from institution to institution and from program to program, only selected examples, rather than national patterns, will be discussed here.

Credit by Examination and Credit for Nonclassroom Learning

Kimmel (129) enumerated the major testing programs that have been developed to evaluate college-level achievement:

1. The American Chemical Society's *Cooperative Examinations* in chemistry
2. The *Achievement Tests* and the *College Placement Tests* of the College Entrance Examination Board (CEEB)
3. The Psychological Corporation's *Achievement Tests in Nursing*
4. The College Board *Advanced Placement Program* (APP)
5. The *American College Testing Program* (ACT) instruments to measure secondary school achievement (and also used for college level placement)
6. The *California Achievement Tests* (CAT) of the California Test Bureau in skill areas of reading, arithmetic, and language
7. The *College-Level Examination Program* (CLEP) designed to provide credit-by-examination to individuals regardless of how they acquired the tested learning and covering 5 general education areas and 29 subject matter areas
8. The New York State Education Department's *College Proficiency Examination Program* (CPEP) which provides examination in 36 subjects
9. The *Cooperative Mathematics Tests* of the Educational Testing Service covering four college-level areas of mathematics
10. The *Cooperative Test Services* in five languages at several levels of competence offered by the Educational Testing Service
11. The United States Armed Forces Institute's *Subject Standardized Tests* which include about 70 tests at the college level
12. Specialized tests for professional fields*

One might conclude from this impressive list that the problem of credit-by-examination is solved. Not so. Institutions vary greatly in the extent of their willingness to grant credit through such examinations. It is common to find an institution granting credit for one

*For further details see *Listing for College-Level Achievement Tests*, Educational Testing Service, 1970.

set of examinations (for example, the APP) and refusing to grant it for another (for example, the CLEP). Kimmel stated the problem quite clearly:

> In American higher education there is no single pattern through which learning is evaluated and recognized. The standards used in evaluation are set by the individual institutions and, commonly, by the individual instructor within that institution (129).

Furthermore, most of these tests are designed to tap learning recently acquired in school. Only a relatively few, such as the CLEP and the CPEP, are designed to measure learning acquired over time, or at some time in the past, or through experience. There is evidence that tests like the CLEP and CPEP can serve a larger population than that served by more conventional tests. Cross and Jones (57) cite a prediction by Moses, based on a study of the growth of America's "learning force," that "by 1976 the number of people engaged in formal organized learning activities *outside* the recognized educational system will exceed the number of students in preschool, elementary, secondary, and higher education combined."

The reluctance of educational institutions to give credit for learning acquired through informal channels may penalize women even more than men in the quest for further education, since women tend to return to education after a longer period outside formal institutions of learning. If a woman is fortunate enough to have access to an institution which grants credit-by-examination or credit for nonclassroom learning, her past education and experience can be an asset to further learning. If she is not so fortunate, she is treated as if she has had no significant earlier learning or experience related to her current program.

The Second Start Study is investigating the degree to which failure to grant life-experience credit, or credit for such examinations as the CLEP, serves as a barrier, especially to the education of low-income women. However, the areas covered by the CLEP may be those with which low-income women may not have much familiarity. Such areas as consumer economics, family life, and infant and child care may be better measures of what women have learned away from formal education. Although the CLEP will soon offer an exam in black history, there has been no indication of plans for examinations in women's studies. Myers (167) noted that the refusal to grant credit for relevant experience "is a waste of time and experience." Cless (44) remarked that "raising a family and serving a community are learning experiences as valid in fact, if not in kind, as sitting in a history classroom or standing in a biology laboratory."

Implementation of the recommendations of the CEEB Commission on Non-Traditional Study would solve some of the problems associated with obtaining formal credit for life experience in higher education. The Commission stresses the need for continued experimentation with "systems of academic accounting" (201). Hartnett (103) proposed national or regional credit banks or centers as repositories and evaluative agencies for student transcripts, thus obviating some transfer credit problems.

The Newman Commission (185) recommended legislation to provide limited education benefits to people who voluntarily choose to step out of formal education in order to participate in selected national, regional, and local programs of community service"; in other words, they proposed a "community service G.I. Bill." Women who planned breaks in their formal education for marriage and childbearing, and for active participation in one of the "selected" community service programs, would overcome some of the credit problems associated with discontinuity and would be eligible for financial aid.

Problems of credit transfer are common in many fields of study. The difficulties encountered by nursing students who wish to transfer from a hospital diploma program to a baccalaureate program or from an associate degree program to a baccalaureate program have long been discussed. The National Commission for the Study of Nursing and Nursing Education (49) cited a researcher's comment that "the most difficult problem which confronts the nursing education system, and the students who choose to prepare for nursing, is the absence of articulation between the various components of the system." The Commission urged that new curricular proposals should be based on the assumption "that education should be an open-ended process and that access to enlarged opportunities is the right of every individual" whether a licensed practical nurse or the holder of a B.S. degree in nursing. Credit transfer seems not to be discussed in the literature on vocational and technical education, suggesting that transfer is not common, that transfers are within fields, or that students in these schools have not raised the issue.

Restrictive Requirements

A variety of regulations once accepted as essential components of the educational process may actually

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impede that process for many students. At all levels of postsecondary education, time limits on degree, diploma, and certificate programs reduce the possibilities for part-time study for mature women. Time limits, often coupled with full-time study requirements, are common in proprietary vocational and technical training schools. Full-time programs to be completed within specified time limits are the general rule in such traditional women's occupations as nursing and social work. Continuing education programs for women have introduced some flexibility at some institutions of higher education, at least at the undergraduate level, but frequently this flexibility is available only to continuing education students, with the result that they may be regarded as "second-class citizens." In a survey of 254 language departments, the Modern Language Association (160) found that only 42 of the 254 departments they surveyed had no time limits on the completion of study. While such regulations are sometimes waived, especially in doctoral programs, their existence can deter women who realize they cannot meet the time limits. Even more stringent, of course, are the time limits and related restrictions on study in law, medicine, dentistry, and comparable professional fields.

The diversity of regulations pertaining to time limits, attendance, etc., suggests a breadth of choice that does not exist. Most nonproprietary vocational and technical education is now provided by community colleges where part-time education without rigid time limits is typically available (184). All too frequently, however, courses are offered and taken on a "catch-as-can" basis; part-time students are often wards of the "Evening Division" and their teachers and counselors may be part-time faculty members. Both full-time and part-time vocational and technical students are the victims of other inadequacies which will be discussed under Curriculum Planning and Student Personnel Services. Since women are a majority of the vocational and technical students in community colleges (184), they are more frequently handicapped by nonintegrated program planning. Flexibility in regulations governing programs is thus a mixed blessing. There are good reasons for Mercer's report (175) of "alarmingly low" completion rates for vocational and technical programs in public institutions.

Proprietary vocational and technical schools tend to offer intensive, full-time programs, the length of the programs varying with the subject matter; they range from 6-week courses for PBX/receptionists to 72-week courses for court reporters (184). Proprietary programs are usually shorter than nonproprietary programs because they do not contain a liberal arts component and do not offer an associate degree (as do community colleges); but the full-time commitment, strict attendance requirements, and higher costs put these programs out of the reach of most women from low-income families.

Even in the face of persistent shortages in nursing and social work, there have been very few efforts to deviate from regulations stipulating full-time study. Most nursing programs at all levels (licensed practical nurse, registered nurse from a 2-year community college program, registered nurse from a 3-year hospital diploma program, or registered nurse from a 4-year B.S. program) demand full-time, continuous involvement and long hours of clinical training. Hospital diploma programs usually also require residence. A few L.P.N. training programs (e.g., New York State Education Department) permit part-time study and clinical experience, usually in the evenings, so that students whose financial resources are limited may also be employed or care for their families. The National Commission for the Study of Nursing and Nursing Education (49) noted that "approximately one out of three entering students in nursing withdraws before graduation." The Commission recommended that nursing preparatory institutions investigate more individualized programs that require accomplishment of curricular objectives, but permit variance in rates of learning and in the number of courses taken at one time.

Traditional patterns of social work training present two obstacles to the student with family responsibilities—a requirement for full-time study, and a requirement that a student accept an assignment for clinical training in any location selected by the school. The Center for the Continuing Education of Women at Sarah Lawrence College, in cooperation with the schools of social work at Adelphi and at New York University, developed an alternative model during the 1960's. Through their program mature women with families could obtain the M.S.W. through part-time study and part-time assignments to clinical field experience within reasonable commuting distances of their homes. This program depended heavily on outside funding, however, and could admit only a few women (210). A few schools of social work now permit part-time study toward the M.S.W. over a 3- or 4-year period, rather than the conventional 2-year period; among them are Simmons College and Boston University (223).

Many women are deterred from persisting to the highest levels of the professions and management because of requirements for full-time study and/or

full-time residency. Most prestigious doctoral programs in the humanities, the sciences, and the professions require a year in "residency" (147), even when other requirements may be met through part-time study. "Residency" may not mean living on campus (in fact, this is not usually required) but it does mean full-time study and part-time employment may be forbidden. Many young women are married and have family responsibilities by the time they have reached this stage in their studies.

The top 1 percent (in the Orientation Test Battery) of the class of 1962 at the University of Michigan were followed by Ross; he found that 63 percent of the group had married by the September following graduation, 50 percent of the group were enrolled full- or part-time in graduate school, 80 percent of the married women had husbands in graduate school, and 50 percent of the couples were both enrolled in graduate schools. These findings regarding a highly gifted group of young women clearly indicate the need for regulations geared to their needs. Harvey noted: "Graduate programs are typically arranged for full-time students. More thought should be given to arranging better academic counseling and scheduling so that the many part-time students in graduate school will lose minimal time."

Regulations which restrict the participation of women are probably most rigid in education for the elite professions. Yet Ross (205) observed:

> Those of us who teach undergraduate women clearly sense an expansion of. . .aspirations in the past few years; at my institution, for example, we have seen a five-fold increase in the number of seniors applying to law school.

If for any reason some of these seniors prefer to study law part-time, their opportunities will be minimal. "Night law schools," once fairly common, are now in short supply. The 1971-72 *Pre-Law Handbook* (17) listed less than a dozen such programs out of a total of 129 programs. An increasingly common pattern, reflected in the *Handbook*, is the acceleration of programs, usually through giving the student the option of studying year round. For most students, therefore, law school is essentially a full-time commitment which may be accelerated by increasing the extent of that commitment. Only a few institutions allow deceleration through part-time commitment.

A similar pattern for medical schools is made more discouraging for women by the internship requirement which, traditionally, has meant a 24-hour a day commitment for a year or more, usually followed by a residency under time pressures only slightly less strenuous. The Carnegie Commission on Higher Education (41) recommended that university health science centers recruit more women and members of minority groups as medical and dental students, and develop programs more responsive to the expressed neeeds of students; they emphasized accelerated programs and articulation among various programs in the health fields to enable students to move from one field to another without loss of credit. Regarding women students they said: "The serious deficiency of child care centers in the United States is undoubtedly one of the factors that keeps women out of medical and dental schools, and out of professional practice later on." Support for part-time programs, part-time internships and residencies, and related devices which would assist both the woman student and the low-income student to obtain a medical or dental education may be implicit in the Commission's pleas for flexibility but are not explicit in the report. A few schools are now experimenting with part-time arrangements; for example, the State University of New York.

Finally, some institutions still impose on mature women students requirements originally instituted to serve the developmental needs of younger women, requirements that are embarrassing or inappropriate for older women. One such is a degree requirement for a certain number of hours (credit or noncredit) in physical education. Myers (167) found this requirement a "nuisance" to mature women; she observed that "most married women, particularly those who have small children or who do their own housework, get *plenty* of exercise." Kampen (125) gave an amusing account of the miseries endured by a mature woman forced to participate in a physical education program designed for much younger students. Ruslink (208) described a home economics school in which all students, regardless of marital status, were required to spend a semester living in a house where they were responsible for preparing meals, cleaning, child care, and other domestic activities. The relevance of such a requirement to the educational needs of married women with children seems obscure. Institutions with strong programs of continuing education for women (e.g., Sarah Lawrence) have ceased to subject mature women to inappropriate or unnecessary requirements. They recognized that such regulations cause some women to feel that they do not belong, and these rules therefore constitute an obstacle to women's further education.

Housing

Until recently numerous colleges and universities maintained housing regulations for women that discouraged the enrollment or the continuance of some women. Foremost was the requirement that women students live in dormitories and eat meals in dining halls; in some institutions the regulations affected only freshmen and sophomores, or only freshmen. Since such regulations for women only would be interpreted as discriminatory under title IX of the Education Amendments of 1972, they can no longer be enforced; however, empty dormitory rooms have motivated some schools to apply the rule to both sexes.

Other regulations pertaining to housing may affect the quality of woman's higher education. A trend that has not yet been carefully assessed is the change to coeducational dormitories. The Lever and Schwartz study at Yale suggested that coeducational housing, in situations where women are in a minority (e.g., at some of the newly coeducational Ivy League institutions) interferes with the ability of women to develop strong friendships with other women and to acquire mutual self-respect (141). The University of Chicago report (251) noted: "The issue of coeducational housing is one on which the sentiments of women vary considerably. . .and there appears to be some concensus that both coed and segregated buildings are needed." Institutions concerned with fostering women's educational and career development should postpone imposing coeducational housing until the effects of the possible patterns (e.g., sex ratios in dormitories, types of room arrangements and associated living areas) can be carefully appraised by each institution.

Currently available data are inconclusive. Brown, Winkworth, and Braskamp (33) found that, at a State university in the Midwest, the proximity of the opposite sex appeared to prompt women to think more about marriage and their sex roles than was the case for men. Research reported by Schroeder and LeMay (215) indicates that there are personality differences among groups choosing different types of residence halls; students choosing coeducational living arrangements may be higher in self-actualization and in interpersonal competence than those who do not. Schroeder and LeMay concluded that coeducational living "exerts a facilitative effect on the development of healthier and more mature relationships." They did not, however, address themselves directly to the effect of such living on women's role perceptions, or their aspirations. Schoemer and McConnell (214) found that women in a freshman women's residence showed a significantly higher level of aspiration than did freshmen in either a mixed women's undergraduate hall or a coed hall. Thus the only major conclusion to be drawn is that institutions should proceed with caution in requiring any one type of housing arrangement.

Married women students, undergraduate and graduate, have been excluded from housing, not only on the grounds of parietal rules, but even from housing for married students when the husband was not a student (241).

Since parietal rules are rapidly disappearing from most campuses, neither their possibly restrictive effects on female development nor their possible helpfulness as a structure within which women students can retreat to avoid sexual importunities will be discussed here.

In summary, flexibility is most apt to facilitate women's educational progress, since the needs of women students at all ages and in all types of educational programs are apt to be more varied than those of men.

CURRICULUM PLANNING AND STUDENT PERSONNEL SERVICES

Women students are affected more than men students by such variables as: (1) Location and scheduling of courses, (2) opportunity to accelerate courses or programs, (3) availability of external degree programs, (4) access to academic resources, (5) differentiation between part-time and full-time students, (6) availability of part-time clinical or field work, (7) counseling and orientation services, (8) availability of child-care facilities, and (9) gynecological services and information.

Location and Scheduling of Courses

A major deterrent to some women is the lack of conveniently located and scheduled courses. Mature married women students at urban institutions are very apt to live in suburban areas from which access to classes is difficult and time-consuming. Younger, single women who live in the suburbs and cannot afford the costs of residence, or who are attending nonresidential institutions, face the same difficulties. Women commuting students are concerned with the dangers of traveling alone in todays's cities after dark. Even institutions located in suburban areas, vocational and technical institutions as well as colleges and universities, may be difficult or even impossible to reach by public transportation. They may thus be, in effect, out

of the reach of women whose financial circumstances are inadequate for private transportation, whether by personal automobile or taxi. In rural areas, most women who cannot become residential students must rely on private transportation to attend educational institutions. A community college administrator in rural St. Lawrence County, New York State, remarked:

> Thinking about the (mature) women of the county, we knew that they were not going to be able to come to us because there are areas that have very few roads and very isolated roads. Husbands will not allow their wives to drive those roads alone. These are usually one-car families, and husbands need cars for their occupations . . . (264)

And, in that county, 40 percent of the women over 25 years of age have less than 9 years of education.

Komarovsky (134) and others have pointed out that the sprawling patterns of residential development around metropolitan centers which have proliferated since World War II have tended to increase the physical distance between students (actual and potential) and educational institutions. Ruslink (208) and others have recommended that educational institutions arrange more off-campus courses in local communities. Shoulders (222) reported that mature women junior college students felt the need for more courses or class sections in branch schools rather than on the main campus. Gould and Cross (95) have specified location of offerings as an important consideration underlying current explorations of possibilities for "nontraditional" programs.

The various demands made on women's time affect the feasibility of scheduling patterns for given groups of students. Since the women who are able to study full-time are for the most part young and single, scheduling difficulties are most frequently encountered by women who are somewhat older (although not necessarily very much older) and who are employed and/or mothers. Most plans for the scheduling of part-time study have been addressed to the needs of the employed person who works from 9 a.m. to 5 p.m. Monday through Friday. Thus, when an institution does have a special program for part-time students, classes typically meet during the evenings and sometimes on Saturdays.

Hembrough (109) found in her study of married women students that evening hours were the most frequently mentioned by mature women as being most convenient for class attendance. Over half of the women in the sample who were not attending college said that they would be able to attend only if late afternoon, evening, or Saturday classes were available. Some of the women already attending classes said that they could continue only if evening classes became available in the fields they wished to pursue. Hembrough pointed out that the time of day when a married woman can attend classes is determined by the schedules of others—her husband, her babysitter, her employer—as well as the transportation system. She questioned: "How many married women choose goals based on what late afternoon and evening classes are available rather than pursuing goals related to their own interests and abilities?" Cross (56) cites Shelden and Hembrough who reported that almost 75 percent of the married women living near enough to the University of Illinois to participate in traditional educational offerings said that they could attend school only part-time; evening classes were twice as popular with these subjects as were those scheduled during daytime hours. Shoulders (222) reported that scheduling difficulties were mentioned by 26 percent of her sample of mature women junior college students. Among the problems cited were limited course offerings in the evening (both in terms of types of courses and number of sections) and the fact that course registration was not possible during the evening.

On the other hand, Myers (167) found that attending evening classes is impossible or very difficult for many women. Many subjects commented that their husbands and children wanted them to be home at night, and that it was only during the day that they were free to attend classes. Westervelt studied approximately 600 suburban women ranging in age from 20 to over 65 (median age 36), the great majority of whom were married and mothers, and about two-fifths of whom are employed. These women were about equally divided in their preferences for part-time day and evenings classes (263).

These studies suggest that women's preferences for patterns of part-time study are varied because of different types of restrictions on time available for part-time study. These restrictions are a function of such factors as availability of transportation, marital status, presence and ages of children, availability of child care, employment status, and husband's work schedule. Thus, flexibility in the scheduling of part-time educational offerings appears to be a paramount need. Many institutions could provide such flexibility through external degree programs; some institutions have opened daytime classes to part-time students while still providing evening and Saturday classes.

Opportunity to Accelerate Courses or Programs

Credit-by-examination and credit for nonclassroom learning have been dealt with in a previous section. Their importance to the acceleration of programs is obvious and does not require further discussion. Other means of acceleration include: (1) The combining of courses for mature students or for students whose tested aptitudes indicate that they can cover more ground in less time than the average student, (2) the use of "learning centers" equipped with the various devices of educational technology to facilitate self-teaching, and (3) broadened interpretations of the credit value for independent study and work experience. None of these are incorporated in present programs of continuing education for women in higher education, vocational and technical education, or in full-time graduate or undergraduate education. Westervelt (267) commented:

> More important. . .than smoothing the path of the part-time student is reducing the necessity for part-time study by changing both the structure and the content of educational programs. There is no reason why we should remain wedded to a concept which equates the accumulation of a certain number of courses and credits with the achievement of a certain degree and which insists, by the arrangement of offerings, that there is a minimum time necessary for such accumulation and achievement. We need to develop new devices and to make better use of existing devices for. . .eliminating the dreary and often lonely plodding which is the lot of the part-time student.

But continuing education has remained on the periphery of institutional structures; problems of program acceleration, like other problems of the adult student, have been solved (if solved at all) by minor modifications rather than major revisions of practice or policy (266). Now that external degree programs are attracting widespread interest among members of the higher education establishment, they probably represent the strongest possibilities for innovations, including acceleration.

Availability of External Degree Programs

In this country, the development of external degree programs is still in its early stages. The Commission on Nontraditional Study only recently issued its recommendations. The distance still to be traversed before external degree programs become solidly entrenched in American higher education is suggested by the Commission's 58 recommendations and by the 7 major themes upon which the recommendations are based. Highlights of the themes are:

> Lifetime learning, continuing and recurrent—a concept. . .that requires a new pattern of support.
>
> A shift in emphasis in colleges and universities from degree-granting to service to the learner. . .
>
> A reorientation or redirection of faculty understandings and commitments together with an increase in in-service development so that there may be better knowledge and use of nontraditional forms and materials.
>
> An organized effort toward more intelligent and widespread use of educational technology. . .
>
> Creation of new agencies to make possible easy access to information and better ways to disseminate it, to perform guidance and counseling services, and to be assessors and repositories of credit for student achievement.
>
> Development of new evaluative tools to match the nontraditional arrangements now evolving (including cable television, computers, videotape, and satellite broadcasting).
>
> Encouragement of cooperation and collaboration among collegiate, community, and alternate educational entities so that new and more diverse educational possibilities in program and structure may come into being (201).

There are in the United States a few well-established programs leading to the external degree and a modest number in the trial stages or on the drawing boards. Valley (253) has described the six basic models for current approaches.

(1) The "administrative-facilitation model"—An evening program or other institutional entity offers special services (e.g. counseling) to part-time students who earn a traditional degree. Correspondence, electronic, and television instruction may be employed.

(2) The "modes of learning model"—A unit (such as a "College of Continuing Education") is set up for

adults within a university to offer a special degree, such as a "Bachelor of Liberal Arts," to be earned through a variety of endeavors. Some of these may be conventional subject matter learning experiences but carried on largely at home with guidance from the university and supplemented by brief periods of intensive residential learning on campus; some may be independent study of topics relevant to the student's unique interests carried out in a variety of settings (e.g., the University Without Walls, which is a union of experimenting colleges, and the British Open University).

(3) The "examination model"—An institution offers credit and degrees on the basis of performance on examinations without necessarily offering instruction to prepare for the examination (e.g., the regents Baccalaureate Degree recently established by the New York State Education Department).

(4) The "validation model"—An institution or agency evaluates the total learning experience in terms of its conception of a degree and indicates any additional requirements needed. This model takes into account all types of prior educational achievement and helps students meet remaining requirements through various means, including regular courses, independent study followed by examinations, correspondence courses, or other extramural devices. Westbrook College in Portland, Maine, is a junior college that awards the baccalaureate degree to its junior college graduates by helping students meet the additional requirements elsewhere.

(5) The "credits model"—An institution sets standards for credits and degrees and awards them on the basis of these standards but does not itself offer relevant instruction for them. The closest approximation of this model in the United States is the ACE Commission on Accreditation of Service Experiences, which recommends the awarding of college credit for instruction completed in the military service.

(6) The "complex-systems model"—A degree-granting institution or agency reshapes its pattern of services, sometimes by combining simpler models of external degree programs, to meet the needs of a different clientele. Various external degree models may be combined into one system which awards credit through a variety of means for a wide variety of educational and other experiences.

While the Commission's recommendations and the models discussed by Valley promise to meet post-secondary education needs of many women ill-served by more conventional programs, a majority of women do not presently have access even to current types of external degree programs. There are three major reasons for this lack of access: (1) Lack of information about the existence of programs, (2) lack of geographically accessible programs, and (3) lack of programs suited to the needs of potential students. As presently envisioned, external degree programs will not serve the needs of women who aspire to a certificate or diploma in a vocational or technical field. The need of such women for accredited external degree programs is evidenced by the number of nonaccredited vocational training correspondence schools (e.g., practical nursing) which flourish on income from women who hope thereby to improve their opportunities for employment and who learn too late that the certificate or diploma for which they have paid and studied is worthless.

Access to Academic Resources

A common difficulty encountered by part-time students and by full-time students with outside responsibilities is limited access to academic resources. Libraries, laboratories, electronic learning centers, data processing centers, counseling offices, registration offices, and other facilities and services are typically open at hours more suited to the personnel who staff them than to the students who use them. Hembrough's questionnaire (109) elicited complaints from women part-time students about library facilities; for example, one student observed: "All required reading is in reserved books. So I hire a babysitter, waste 20 minutes finding a place to park, and then find the specific thing I need is not available. . .This wastes a good deal of my time and money." Counselors of mature women report similar complaints about the availability of other facilities and services.

Although supporting data are lacking, limited access to counselors and advisors may hinder many women from continuing their education. For reasons which will be detailed in a later section, many women are ambivalent about continuing and are therefore easily discouraged by finding that they must make special arrangements with babysitters or employers in order to obtain advice or counseling about available and appropriate programs. For such women, advice and counseling through neighborhood centers can provided needed encouragement.

Differentiation Between Part-Time and Full-Time Students

The issue of whether institutions should differentiate between full- and part-time students, and if so, in what ways and to what extent, is still unresolved. The argument for "segregation" has been heard frequently in discussions of programs for mature women students; the rationale is that these students have needs different from those of their younger counterparts. Some institutions, particularly those with full-fledged evening or other part-time programs, will not permit part-time, mature students to attend classes intended for younger, full-time students. The reasons given for this restriction are that younger and older students learn at different rates, that each group tends to be threatened by the other, that instructors cannot provide a rewarding learning experience for both groups in the same class.

A systematic evaluation of segregation versus integration under differing institutional conditions and with differing student populations has apparently not been undertaken. Perhaps the most basic shortcoming of programs which segregate part-time students in institutions which regard full-time students as their prime responsibility is that such programs are regarded as peripheral to the institution's commitment and are therefore underfinanced and understaffed. Mention has already been made of Shoulders' report (222) and the limitations on offerings and services experienced by her subjects. Segregation also limits opportunities for interaction with other students, a restriction which can detract from the full potential of the educational experience; Goodwin (93) mentions this as a problem for the woman doctoral student.

Availability of Part-Time Clinical and Field Work

Many women are deterred from embarking upon training for paraprofessional and professional fields by the lack of opportunity for part-time clinical or field work experience. This obstacle has already been discussed under Institutional Regulations. Until the many institutions that train paraprofessionals and professionals develop training programs that include part-time clinical and field work opportunities, entry into such programs will be for the most part open only to individuals who have access to adequate financing for training and who have no other major demands upon their time.

Counseling and Orientation Services

The relationship between counseling and the educational development of girls and women has been discussed and explored for at least a decade. The Report of President Kennedy's Commission on the Status of Women (191) contained this recommendation:

> Public and private nonprofit employment counseling organizations should be adequately staffed to provide comprehensive and imaginative counseling services to:
>
> > High school girls, not only as seniors but in their earlier years, and women engaged in higher education and continuing education;
> >
> > Women workers either entering the labor market, displaced from their jobs by economic changes, staying in on a part-time basis, or reentering;
> >
> > Women wishing to make constructive use of their leisure, whether outside working hours, at times of lessened home responsibilities, or after retirement.

The Commission also recommended that:

> Institutions offering counseling education should provide both course content and ample supervised experience in the counseling of females as well as males, adults as well as adolescents.

In 1965 the Women's Bureau of the U.S. Department of Labor held two regional conferences on the counseling of girls. Other workshops, programs at annual conventions, and at least two short-term training institutes* followed. Nevertheless, research and commentary indicate that both girls and women are still the victims of biased or inadequate counseling.

Counselor bias against women has been documented more frequently by reports than by empirical observation. The study of the status of academic women on the Berkeley campus of the University of California (252) turned up a number of examples, of which the following are typical:

> . . . my parents were told not to *allow* me to follow a science major! They were contacted privately and told they were very foolish to allow

*One institute, sponsored by NDEA, was held at Teachers' College, Columbia University in 1965, and the other, supported by the National Vocational Guidance Association, was held at the University of Oregon in 1970.

me to continue a major in physics or nuclear engineering because a woman would "never" be hired in these fields.

I entered UC as a freshman and upon my first interview with an adviser, was advised that it was silly for a woman to be serious about a career, that the most satisfying job for a woman is that of wife and mother, etc. . .The advice was repeated upon several later occasions. . .

There is a rather widely held belief that the tendency of girls and women to limit their career aspirations to the traditional "women's occupations" and their seeming reluctance to pursue education to higher levels is at least partially a result of the counseling they receive in high school, college, and beyond. This belief has not been documented by any broadbased, comprehensive study, but is supported by many observations.

The existence of counselor bias has been documented, however; Pietrofesa and Schlossberg (189) report a pilot study of approximately 30 student counselors in a graudate program. Each of the counselors interviewed a counselee who had been coached by the experimenters to present herself as a recent undergraduate transfer to the upper division who had high mathematical ability and was trying to decide between a career in mathematics or in elementary school teaching. The taped interviews indicated that more than 80 percent of the male and female counselors counseled the young woman to enter elementary school teaching.

Recent journals in counseling and guidance contain a variety of articles on the counseling of girls and women, from elementary school through continuing education in middle life. These reflect awareness that counselors must be "resocialized," as Berry (28) put it, if they are to facilitate rather than impede women's realization of their aspirations:

Counselors . . . must take a giant step to increase their understanding. There is more involved than the question of job or no job. Lessened interest in the production of children and the availability of alternate living arrangements bring new possibilities and new pressures and require new decision-making processes . . . counselors . . . must understand, sympathize with, and support the altered objectives, aspirations, and expectations of young women. . . . The counselor can provide leadership to teachers and administrators by suggesting curriculum and media materials that describe and depict new life options and opportunities for girls and women.

Schlossberg (211) pointed out that, because "women have been limited in their decision-making possibilities because of societal limitations," counselors who would help girls and women clarify and achieve their aspirations must use "strategies combining counseling, guidance, and social activism." She noted the need for employing a variety of methods in guidance and counseling, some designed to expand women's educational and vocational horizons, some to help them deal with their own identity, and some to initiate them more fully into the worlds of education and vocation.

Matthews (152) discussed the counseling needs of the adult, middle class woman who is considering returning to work, entering vocational training, completing undergraduate work, or entering graduate school. Such a woman is actually entering upon a "resynthesis of identity in mid-life" and counseling should provide her with "a series of experiences that will enable her to determine the relationships among her values, interests, skills, aptitudes, and experiences; the views of her husband and family; and the opportunities for education and employment in her area." Such counseling involves a series of stages and the use of a variety of techniques, including individual and group counseling and guidance, the media, and family participation.

Women's educational and vocational options and aspirations have been constricted by some of the tests in common use, particularly tests of interests. The current edition of the Strong Vocational Interest Blank for Women, which is used at high school, college, and adult levels, covers a more limited range of occupations than the equivalent test for men and includes occupations which are traditional "women's fields" as well as occupations in which pay and status are relatively low and/or for which labor force demand is not currently high (213). Research has shown that the power of an earlier edition of this test to predict women's long-term career patterns is not high (99, 100, 101). Interest profiles of several hundred women on earlier versions indicated that the marked majority of subjects obtained flatter profiles than did the men (263). The Kuder Preference Record, which uses the same instrument for both sexes but scores responses by sex, has also been found to be discriminatory. Movements are now underway in professional associations to eliminate use of the current forms in guidance and to press for their revision.

An awareness of the special counseling needs of

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adult women, especially those returning to education, has generated a sharp increase in available counseling services. Most centers of continuing education for women in colleges and universities provide counseling and orientation to their students; in addition, some counseling services for women (usually associated with a college or university) exist independently of continuing education programs.

In 1960 there were no centers of continuing education for women and no counseling services for adult women seeking further education; there are now over 450 scattered across the country (247). The services of some are limited by inadequate staffing but their effectiveness has been demonstrated by the sharp upswing in participation of adult women in continuing education, as reflected in the annual reports of continuing education centers (e.g., University of Michigan, University of Minnesota, Sarah Lawrence College, University of Missouri at Kansas City). Effectiveness has also been demonstrated by at least one formal evaluation of a professionally administered guidance center for women which provided a variety of counseling and guidance services, using the media (especially radio), an information library, lectures, workshops, testing, and intensive individual and group counseling. Independent evaluators found that the center had a positive impact on the educational, vocational, and personal planning of 87 percent of its clientele during a 2-year period of operation (195).

Nevertheless, as Lee and her colleagues (139) pointed out, a single pattern of counseling services will not fit all groups of women. Women who might move into vocational and technical training at some point after graduation from high school typically are resistant and/or unwilling to undertake long-range planning. They may be helped to clarify marriage and employment plans through counseling focused on *decision points* (at high school entrance, at high school graduation, at marriage, at entrance or return to employment) to establish short-range as well as long-range goals. The authors recommended that counseling opportunities and tools be provided for women through junior colleges, area technical schools, the State employment services, and the Job Corps; they should be widely publicized, especially among school dropouts and the unemployed. They also pointed out that counselors need more familiarity with the world of work into which women with vocational and technical education can move.

Although the last decade has clearly witnessed progress in the provision of counseling, guidance, and orientation services to women, much still remains to be done. The greatest growth has been in the area of services to adult middle class women. As Matthews (152) noted: "Few institutions have begun to forge programs for the intelligent, sensitive, energetic, ambitious, uneducated adult woman of the ghetto." Furthermore, counselor bias and the bias inherent in interest tests used in guidance continue to reduce the effectiveness of counseling services available to young women in high school and college and to mature women seeking to continue their education. This bias truncates the educational, vocational, and personal development of many women.

Cohen (45) remarked: "Even at elite women's colleges, counselors discourage women from applying to law, engineering, or medical schools." The 1963 recommendation of President Kennedy's Commission on the Status of Women (191) regarding educating counselors to work effectively with females, has not yet had much impact on counselor education programs.

Services and counselors oriented to the actual responsibilities and the current and emerging opportunities of today's woman—affluent or poor, rural, suburban, or urban, adolescent or middle-aged, full-time or part-time students—are still very much needed. The lack of such counselors and services constitutes a major barrier to women's pursuit of postsecondary education, for the result is the misdirection and undermining of women's aspirations. Moreover, the responsibility for providing such counselors and such services cannot lie solely with postsecondary institutions or with public agencies such as the State employment services and the Job Corps, for much of the damage to women's aspirations is done in secondary schools and even earlier. In any program of improved guidance and counseling for women, the high school guidance counselor is a key figure.

Gould (95), Placement Director at Barnard College, pointed out that employer bias against women is reflected in recruitment literature and in recruitment efforts. Federal civil rights legislation has made some impact on discriminatory practices in recruitment but recruitment brochures picturing only or mostly men in top-level jobs still appear, along with attempts to recruit women college graduates for dead-end jobs which are "dressed up" as research or programing trainees or editorial assistants. Gould noted that these evidences of discrimination negatively affect the expectations of young women, many of whom either approach career decisions with tremendous ambivalence or settle for jobs or life patterns beneath their ability. She recommended that college placement officers refuse to list jobs which do not require a

college education and refuse to display recruitment literature which is discriminatory.

Lee (139), who, with three colleagues, studied the implications of women's work patterns for vocational and technical education, noted that the low incidence of women in many technical occupations in part results from failure of schools and industries to acquaint women with the opportunities available in trade and industrial and technical occupations. They recommended an effort by teachers and school counselors to better acquaint girls with such fields, through videotape and audiotape information and other instructional materials and through opportunities for first-hand observations of workers and work settings.

These comments suggest that placement services, as well as guidance and counseling services, must take an activist position against current tendencies to channel women into a limited number of fields, some of which are dead-end.

Availability of Child Care Facilities

While inadequate counseling and guidance interfere with the educational development of women of all ages, lack of child care facilities primarily affects women in the prime of life. Such women may be seeking vocational and technical training to upgrade their employment opportunities or to better contribute to family income; or they may wish to complete an undergraduate education interrupted for marriage or children; or they may wish to undertake or continue graduate education for scientific, academic, or professional employment. President Nixon's Task Force on Women's Rights and Responsibilities (192) reported in 1970 that "Department of Labor manpower experts cite lack of child care as the most serious single barrier to job training or employment for low-income mothers." The Task Force recommended that the Administration "support legislation to authorize Federal grants for developing child care facilities for families at all income levels, with at least a modest appropriation. They stated that the national goals should be:

> A system of well-run child care centers available to all pre-school children. Although priority would be given to needs of low-income working mothers, the facilities should be available to middle income mothers who wish to use them.
>
> After-school activities for school-age children at all economic levels who require them.

The Newman (171) report recommended: "Facilities should be provided (at educational institutions) which give recognition to the fact that a woman is not a female bachelor. The establishment of child care centers is perhaps the most important practical step to be taken, but other facilities such as access to housing arrangements and health services are needed."

Despite such recommendations, child care services designed to facilitate a woman's pursuit of education at any level have been slow to develop. Of the 454 colleges and universities surveyed by the American Association of University Women (AAUW) (186), only 5 percent had some kind of day care services for students with small children. Their report stated:

> It should be noted that women's colleges are the most likely to provide counseling and day care services and to make adjustments for mature women.

The single most critical problem for women covered in the Berkeley study (252) was the lack of "high quality child care facilities for members of the university community." About 25 percent of the women graduate students at Berkeley had children. Not only was the number of public child care facilities inadequate, but the income ceiling in these public facilities made them unavailable to many students who could not afford private child care.

The University of Chicago report (252) stated that 33 percent of the men with children and 77 percent of the women with children implied that their academic work was hampered by the need to care for their children. Lack of child care facilities on that and other campuses has been a problem for male as well as for female students. Hembrough (109) found, in her study of student wives and mature women students at the University of Illinois, that women without children were more likely to attend school than women with children. However, motherhood did not appear to determine whether or not married women continued their education; rather, as one respondent remarked: "The biggest help would be to have a place where we could take the children and leave them while attending class or studying in the library." Junior college women studied by Shoulders (222) also noted the need for child care facilities on campus, as did the married women in Ruslink's study (208) who resumed education to prepare for teaching.

Komarovsky (134) and Mueller (164) observed that during their child-raising years, educated women need substitute mothers and/or child care facilities if they

are to pursue activities outside the home. Cohen (45) discussed the advantages of university child care facilities for students, faculty and staff, and community. Graham (96), in a examination of the problems of academic women, noted:

> For mothers to have a place where they can leave their children, confident that they will be well cared for, would be a tremendous help. Ideally these centers should be open to all employees and students of the university, with preference in admission given to children of women attached to the University. Thus women graduate students would have a real chance to finish the work for their degree despite their maternal responsibilities.

At this time, however, neither federally supported programs nor trends in the establishment of child care services on college and university campuses give any indication that the problems of most students who are parents of young children will soon be alleviated.

Gynecological Services and Information

According to Cohen (45): "The typical campus clinic ignores the specific health needs of women and, to a large degree, reflects a somewhat Victorian attitude toward the female. In view of the recent radical changes in social mores and campus regulations, college and university medical services should be expended and updated."

The AAUW survey (186) revealed that:

> Birth control information or counseling is provided by the Health Service in 43 percent of the schools surveyed; the others make referrals to physicians outside the institution. It may be that many schools avoid the situation and do not attempt to handle the problem in either way.
>
> Data indicate that large public institutions, with medical resources and a heterogeneous population of students are likely to be liberal in policy and to provide special services to the married or pregnant woman student. Small and private schools are almost as liberal in policy but do not generally furnish counseling in their health services, perhaps because of limitation of facilities and staff. The sample of women's colleges appears to be the most conservative on all aspects of policy and birth control counseling, although it had been anticipated that they would lead the way in services of this kind to their students because of their special role in women's education.

Considered in the context of the survey design, implications of this report are troubling. The questionnaire was sent to the 750 institutions that are institutional members of the AAUW—a membership which can be presumed to indicate some interest in the higher education of women. The 454 colleges and universities that responded presumably had a keener interest in women's education than did the nonrespondents. It is not comforting to find that less than half of these provided birth control information and counseling. Certainly unexpected and/or unwanted pregnancies are almost sure to interrupt, and are very apt to terminate, a woman's educational activities.

The University of Chicago report (251) noted that when, in 1964, the University first offered gynecological and contraceptive advice to students "in the context of individual consultation between patient and doctor," it was the first university health service to do so. Although the committee that prepared the report ascertained that "it is the explicit policy of the Student Health Service to provide not moral but only medical advice," some students complained that they encountered more of the former than of the latter and also that appointments were often delayed. The committee found that the transfer of the service to Lying-In Hospital had diminished delays in appointments but they could not evaluate the accuracy of the first complaint.

At a wealthy and prestigious eastern coeducational university, students reported to Westervelt that no gynecological services were available on their campus, although the university employed a full-time and several part-time psychiatrists.

The Cornell report (242) included a statement from two students who prepared a special report for submission to the House Special Subcommittee on Education: "There should be a gynecologist at the (student) clinic for Cornell's more than 3,000 women students, and students must know at least one doctor to whom they can go at the clinic for contraceptive advice and prescriptions."

Aside from the AAUW data (186), there is no clear picture of national trends in the provision of birth control information and gynecological services to women students in colleges and universities. It is probably a common tendency to make referrals outside the institution or to employ the services of an outside

clinic, rather than to provide the services on campus. There is no accurate information regarding the extent to which the advice students receive is moral rather than medical. However, one can reasonably conclude that neither the quality nor the quantity of birth control information (including abortion counseling) or of gynecological services on our campuses are at the levels that one would expect considering that well over two-fifths of the students are women.

Obviously, college and university services are not available to women students outside of higher education. For less affluent women, the number of children they bear and the effect of childbearing and rearing on their health and energy are critical determinants of their capacity to take advantage of new opportunities for education and employment. The Report of the Women's Action Program of the U.S. Department of Health, Education, and Welfare (247) pointed out:

> With the passage of the Family Planning Services and Population Research Act of 1970, Congress recognized that family planning is a basic human right and a means by which infant and maternal morbidity and mortality, illegitimancy and poverty could be reduced. Two priorities were established by the Act: developing a nationwide system of family planning services and developing new, improved methods of contraception. Responsibility for achieving these priorities was given to HEW.

Family planning services are now heavily concentrated in metropolitan areas; people in nonurban areas, especially rural areas, and ethnic groups that resist traditional approaches to family planning, are greatly in need of such services. In addition, the Report noted that programs "fail to recognize the importance of the individual's responsibility, regardless of sex, for contraception." It stressed the importance of educating males to take birth control measures, including vasectomy, and emphasized the need for improved methods of contraception since many women cannot tolerate the side effects of the pill or the IUD.

The need for better family planning, obstetrical, and gynecological services for medically indigent women and for women not educated to seek these out is a topic frequently discussed by private agencies, such as Planned Parenthood, and public agencies, especially welfare agencies. These services are relevant to women's capacity to pursue education beyond the high school level.

FACULTY AND STAFF ATTITUDES

Faculty and staff attitudes toward women's roles and toward women as students (especially in certain fields) present very real, if not always obvious, barriers to women's pursuit of postsecondary education at all levels. The effects of these attitudes have been mentioned in some earlier portions of this review, particularly the sections on admissions and counseling. Such attitutdes are general believed to constitute one of the most serious impediments to women's development, and may be partly due to the sex distribution of faculty and staff (especially in certain fields).

The manifestations of negative attitudes toward women as students generally fall under five headings: (1) Lack of active encouragement and support, (2) sex discrimination in job placement before and after graduation, (3) overt and covert expressions of sex stereotypes and masculine expectations for women's roles and behaviors, (4) absence of female role models among faculty and administrators, and (5) effects of antinepotism rules on sex distribution of faculty and on expectations of women students.

Lack of Active Encouragement and Support

The amount of active encouragement and support for a woman student is usually the result of a number of variables, including the institution in which she is enrolled, the field in which she is studying, the level of her aspirations, and, without any doubt, the personal attitudes of the faculty member(s) to whom she looks for advice. Not all male faculty hold negative attitudes toward women's potential and not all female faculty hold positive attitudes.

Little is known about the workings of these factors in vocational and technical schools or training programs. There is every evidence that women are actively recruited for training programs in traditional women's occupations, such as the paraprofessional health occupations, institutional housekeeping, cosmetology, and clerical occupations, including keypunching. There is little indication that they are actively recruited to aviation, automobile mechanics, electronics, and other highly paid fields. In 1967 men outnumbered women by 11 to 1 in such technical courses as electrical and electronics technology, drafting and design, and data processing (249). Although apprenticeships are the primary route to employment in many high-paying trades, at the beginning of 1968 less than 1 percent of an estimated 278,000 registered apprentices were women, and they were for the most part in cosme-

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tology, dressmaking, tailoring, bookbinding, and dental technology (249). That these patterns reflect the attitudes of vocational and technical school faculty and administrators, and labor unions, seems a safe assumption.

The tendency of some faculty and administrators to withhold encouragement from women students has been much more carefully examined in higher education. Results suggest the variety of the factors at work. While Shoulders (222) found that only 9 percent of the mature women junior college students whom she studied felt that negative attitudes on the part of faculty hindered their progress, the Harvard Report (104), on the other hand, described the effect on women students of an academic atmosphere where women are treated with distrust and suspicion:

> Women students experience what has been called a "climate of unexpectation": fear of discrimination, awareness of their real difficulties in working out career patterns, and the assumption on the part of some faculty members that "women don't pan out."

Some striking examples of academic attitudes toward women were revealed in a 1969 AAUW survey (136) of readers of its journal. Of the nearly 8,000 respondents 80 percent were women. The following are a few examples:

> Architecture departments make a practice of trying to convince women students to switch to interior design or fine arts.
>
> (From a man) Though (my wife) won a prize as the best graduate student in her department, the chairman refused to recommend her for a dissertation fellowship.
>
> (From a woman, regarding an interview for law school) The dean tried very hard to discourage me from enrolling. I was 30 years old and had been working over five years for lawyers. I knew precisely what I wanted and had the prerequisites to do it.
>
> One student reported that a married couple may live in married student housing if *he* is going to school. If *she* is the student, they must move off campus!
>
> My undergraduate degree was in electrical engineering. When the companies came around to interview senior engineering students, interviewers looked at me as if I were some sort of freak. One pair of men actually laughed in my face. (Apparently the Placement Office tolerated this.) After I obtained employment as a computer aide, I enrolled for night enrichment courses. The professor greeted me with such hostility I was obliged to drop the course.

Open hearings on the status of women at Columbia University (29) called forth many instances of negative attitudes toward women students. Participants reported: "Women taking their orals are harassed and humiliated." "In a graduate history seminar, there were five men and three women. The professor constantly belittled the women. The next year, only one woman remained. ." "A professor said, 'It's a waste to educate women to the Ph.D. level. A master's is all one needs to be a good wife and mother.' " "In Law School we have Ladies' Day, usually once or twice a semester, in which only the women students are called upon." During the prehearing caucus all the women agreed with one who said, "We're sick of laughter as a response to our political problems and as a coverup for other things—like sadism."

Rossi (205) reported:

> My first day in graduate school I was greeted with the comment of an economics professor: "Women have no place in economics." He refused to mark the papers of the women students. We protested to the department but they upheld the prerogative of the faculty. The man in question was a visiting professor and they didn't want to "impose on him"! Never mind the effect on the woman students!

The Berkeley (252) study of graduate students turned up many complaints about faculty counseling and advice. Women students cited discouragement of their work, implications that scholarship is unfeminine, indifference to their training, and reluctance to find them aid or jobs.

The NOW report on coeducation at Princeton (166) described an example of masculine attitudes that may be all too typical. The Director of Mental Health at the institution stated in 1969 that women "still haven't come up to men intellectually."

The literature of the women's liberation movement and documents supporting legislation to provide equal rights for women (for example, the Education Amend-

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ments of 1972) are replete with similar evidences of the active discouragement of women scholars. Inevitably, such attitudes are associated with lack of active support for women students and with more basic conceptions of sex differences and of the nature of scholarship.

Sex Discrimination in Job Placement Before and After Graduation

In the section on financial aid, it was noted that sex differences are clearer if examined within given types of aid rather than for all types of aid taken together. In the section dealing with limits on employment opportunities for women students, examples of discrimination were cited from studies at the University of California at Berkeley (252) and at the University of Chicago (252) which showed that men were more apt than women to become teaching assistants in graduate school and that men were more likely to be helped by faculty to find part-time work related to their graduate studies. Also mentioned was Felman's national study (82) that revealed that men were more likely than women to receive teaching or research assistantships.

Data from Harvard (104) indicated that women constituted 24.6 percent of the students admitted to the Graduate School of Arts and Sciences in 1968-69 but represented only 19.2 percent of those awarded teaching fellowships. The two most usual explanations for this type of discrimination are: (1) Women are not considered "appropriate" for teaching predominantly male undergraduate classes, and (2) male faculty are reluctant to accept female students in the role of protege.

Bikman (29) reported the case of a young widow who had a 5-year old child and was working toward a doctorate; she was the only art history student holding a Woodrow Wilson fellowship but, as she commented:

> . . .my fellowship was honorary. When I inquired as to why I hadn't received a university fellowship, I was told by a professor that Columbia was "chary of investing in a woman." He also told me "Your personal life is trying, but those burdens will be cause for your remarriage. Besides, you're too attractive—we can't expect you not to remarry."

Another Columbia woman, according to Bikman, testified that she had been informed in confidence that there was an order or priority for awarding fellowships: Men, unmarried women, and lastly, married women with children.

Although a thorough discussion of discrimination against women in employment is outside the scope of this review (the interested reader can consult Epstein (70)), the repercussions of such discrimination on the placement of women graduates is not. Again, most reports on this subject come from higher education, especially graduate education.

The Berkeley study (252) found that women were often told by department heads that they would be unable to get jobs in major universities. Caplow and McGee (40) suggested that this may in fact have been the case (their study antedated legislation against sex discrimination in educational institutions):

> Discrimination on racial or religious grounds is a luxury in the hiring process which seems to be practiced only when there is a surplus of candidates of quality. . . . (But) women tend to be discriminated against in the academic profession, not because they have low prestige but because they are outside the prestige system entirely and for this reason are of no use to a department in future recruitment.

Of course, one set of factors operating to keep women out of the prestige system involves attitudes and beliefs regarding the attributes of women. Bernard (27) quoted a dean's statement:

> When I plan faculty, I have no prejudice against women. But I do have to keep in mind the requirements for the specific job. I have no qualms about hiring a woman for plant pathology; the classes in that course are always small and even intimate and there are no technical difficulties with respect to acoustics. But for the course in European History I would never hire a woman. The classes are enormous, the acoustics of our lecture halls are not the best, and the general set-up would militate against a woman teacher. In Ancient History, on the other hand, where, again, the classes are small, I would not hesitate to hire a woman.
>
> For introductory economics I would be very glad to hire a woman. But for tax economics, no. The tax economist has to go to tax assessors, to tax collectors, to all kinds of record-keepers throughout the state and make contacts with men on a business-like basis . . . a woman would not be as likely as a man to make the practical connections. . .

The extent of support a woman can expect to receive in her search for a position after graduation depends in part upon the field she has chosen to enter. But in almost all fields she is likely to be regarded as being outside the prestige system and therefore less attractive than a man for certain departments and certain positions. She is kept outside the prestige system by beliefs that her sex incapacitates her for certain kinds of responsibilities.

New legislation regarding sex discrimination in educational institutions, coupled with pressure from women's groups, may open some new doors for some women, but how widely those doors will open and for how many women remains to be seen. When sufficient time has elapsed, it would be useful to undertake research to explore the extent of change in hiring practices and in support of women graduates for positions. Efforts to meet affirmative action goals may stop short at assisting a few "token" women in obtaining appointments in disciplines and departments in which women have not been previously welcome.

Sex Stereotypes and Expectations

Bunting, Graham, and Wasserman (35) pointed out:

> Equal educational opportunities for men and women will not exist at any university until expectations concerning appropriate life styles change. As long as little boys are encouraged to aspire to careers and little girls to jobs and marriage, academically talented girls will remain disadvantaged in college, whether they make up 20 percent or 70 percent of the student body. Their cultural handicap will not be eliminated until it is understood that there are many different life styles for both men and women and that a particular style does not determine one's masculinity or femininity. In the long run, the erosion of sex stereotypes will do more to equalize educational opportunities than any changes made within the universities themselves.

A similar statement would apply to vocational and technical education.

Sex stereotyping among educators is implicit and explicit in much of the material already discussed in this review. It may be helpful, however, to consider briefly the ways in which sex stereotyping affects the climate of many educational institutions. Although relevant research and commentary pertain mainly to higher education, much of it clearly depicts conditions not unlike those in many vocational and technical schools.

Riesman (202) charged that American academic life has an increasingly "male" mode of performance; that is, approved behavioral styles and measures of competency tend to be derived from stereotypes of masculinity. Lever and Schwartz (141) asked students in the first coeducational classes at Yale to define "masculinity" and "femininity." The following definition is fairly typical of those from both males and females:

> Masculinity is that which forms the formal, active, or generative principles of the cosmos. I think it is strength, responsibility, initiative, aggressiveness, calm, thoughtfulness, reliability, consistency, independence and domination. Femininity is the opposite. It is dependence, sensitivity, fear, pessimism, fickleness and impulsiveness.

From a woman they received the following definition:

> Feminity? A complimentary kind of thing. The ability to serve without being servile. . . . I see (serving) as more ennobling than degrading when it's consciously chosen on a personal level. It's the ability to serve, to reinforce, to make another conscious of his own value.

Lever and Schwartz stated: "The biggest debate over the Yin and Yang question came to a head in the classroom. The men were used to thinking of accomplishment and creativity as masculine; a woman need only validate herself as a lovely and charming personality. If she was a good student it was because she was diligent, not because she was creative." A female student said: "Women. . .memorize something and conquer it. . . .men tend to form more concepts and think in a wider view of life—which I think is probably better in the long run." Male students tended to believe that aggression in the classroom was a male prerogative: "(To be) authoritative and uncompromising. . .are masculine traits." Even women students felt that women who "came on too strong" in the classroom were embarrassing. They seemed to regard it as out of place for females to enter into male intellectual competition. Male students who liked having women in their classes, as quite a few of them did, saw a good female classmate as providing the "feminine viewpoint" and being gracious and supportive; she contributed to the class but she did not exhibit her superiority.

In considering Yale, Lever and Schwartz pointed out that an environment which extolls male virtues and society's conception of male roles lowers women's opinion of themselves and causes women to orient themselves, in supportive and sexual roles, to the male world. Wallace (256), similarly observed that, at a small midwestern coeducational campus, orientation to men and to the male world caused women not to form strong same-sex friendships. Women students felt that women were not close to each other at Yale; many felt that the need for men had superseded the need for women, and many did not value friendship with other women at all.

Lever and Schwartz were not, however, entirely pessimistic about the future, at least at Yale:

> The feeling of change is in the air. The men and women at Yale are questioning their relationship to one another and the ramifications of their relationships on their lives. The majority clings to the past, but it seems that change will be hard to stop. The sexual revolution is forcing the issue. With new physical freedom, with an opportunity to partake of the same training that has produced "leaders" for centuries, women's expectations are changing and men are having to learn how to respect and interact with a multi-faceted woman. (But) no one expects the journey to be easy and smooth.

The woman graduate student probably encounters much more resistance to the idea of a female as a scholar and a competitor with males than does the undergraduate. Sybil Stokes, a woman law student at the University of Michigan, reported:

> If (a woman) is quiet and does not assert herself in class, she is called passive, and this supposedly proves she will never make a really good lawyer. On the other hand, those of us who are more assertive are labelled aggressive, castrating females who will do anything to get ahead. Somewhere in this process the woman law student begins to question her femininity. . .(272).

Greer Litton Fox, a graduate student in sociology on the same campus, noted comparable phenomena in her field (272). "There is," she said, "no positive support for women built into the system." Male graduate students "suspect the intentions of women" and "they do not take graduate student women seriously." In the opinion of the male students women "don't *have* to be in graduate school" and a woman is a fool for being there when she does not have to be.

Women students, especially graduate students, must cope with yet another problem in their relationships with faculty, what Fox (272) termed the "sexually ambiguous relationship between male faculty members and female graduate students." The position of woman as sex object is a common theme in the rhetoric of the women's liberation movement. Though at this time there are no studies which support the contention that female graduate students are sexually exploited or regarded more as sex objects than as scholars by male faculty, we do know from personal reports that this does occur. Nor is this surprising, since it is only a special case of a much broader problem for women in our society, one which occurs with fellow students, fellow employees, and even passing strangers. (For a thoughtful discussion of this problem see Janeway (120)). As Hsu (116) has said, in America, the perception of woman as first of all a sexual being follows her into every activity and every setting.

Absence of Female Role Models Among Faculty and Administrators

Another obstacle to the educational and career development of women has been the absence of female role models among teachers and faculty. Husbands (118) remarked:

> There is no hard evidence that women serve as more effective role models than men for women college students. . . . Many women graduate students report the essential part a male teacher in college played in raising their educational and carrer aspirations. . . .But there are potential benefits in same-sex faculty-student interaction which go beyond the provision of models for attractive life styles. . . . Cross-sex relationships may not be as intellectually challenging as same-sex ones, because of the easy availability of such tension-reducing mechanisms as flirting, and because of reliance on sex-specific roles inappropriate to the situation.

In her study of three cohorts of women listed in three successive editions of *Who's Who of American Women*, Tidball (240) found a highly significant positive correlation between the number of women faculty on campuses and the number of women achievers graduating from such campuses. There was no

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correlation between the number of men faculty and the number of women achievers. These data do not reveal whether the more potent influence on the achievement of the women was the existence of female role models or tne opportunities for same-sex student-faculty relationships. However, they do demonstrate the existence of a relationship between achievement by women and exposure to women faculty.

Proportions of women faculty are low in higher education as a whole, and extremely low or almost nonexistent in some fields, as sex differences in earned doctorates would suggest. Female teachers are almost never found in vocational and technical training programs for "male" occupations, since such a low proportion of women even become students in such programs. On the other hand, observation suggests that teachers in training programs for "women's" occupations are predominantly, but not exclusively, female.

In spring 1963, only 18 percent of the full-time teaching faculty and 22 percent of all faculty and professional staff in universities and 4-year colleges in the United States were women (252). Any major change since that time seems unlikely. Among college presidents, women are even rarer. No institution with over 10,000 students has a woman president. Four of that select group of women's colleges (one is now coeducational) known as the Seven Sisters are headed by men today; of the three headed by women, two are "coordinate" colleges gradually losing their separate identities. No woman heads, or appears likely to head, any of the Ivy League colleges for men which have recently become coeducational. The AAUW survey (187) found only 157 women college presidents, of whom 133 were nuns; of the remaining 24, 8 were presidents of women's colleges, 8 of 4-year coeducational colleges, and 8 of 2-year coeducational colleges. An administrative post once always held by a woman, that of Dean of Women, is disappearing from our campuses and women are not moving out of that position into that of Dean of Students. In 1962-63, only 20 percent of all chief student officers in all 2- and 4-year institutions were women as were only 19 percent of all directors of counseling (177).

Even in fields where women study in large numbers, as in education, women are a minority of faculty. For example, at Kansas State Teachers' College in 1969-70, there were 36 female assistant professors and 91 male, 19 female associate professors and 70 male, and 4 female full professors and 39 male (48). At Eastern Illinois University, originally established as a teachers' college, there were 443 men and 150 women on the instructional staff in 1970; 25 of the women but only 7 of the men were part-time (61).

Nor are females represented adequately on the governing boards of colleges and universities. Altman (186) found that 21 percent of the 454 institutions responding to her survey had no women trustees. Thirty-two percent of schools with enrollments over 10,000, 26 percent of publicly supported institutions, and 24 percent of coeducational schools had no women on the governing boards. Also, 25 percent of the sample had only a token woman on the board. There was no relationship between the proportions of women students and alumnae and proportions of women trustees. This underrepresentation of women has also been documented by Hartnett (102).

Cross (55) pointed out the effects of these patterns:

> Society has tended to look upon universities as male institutions, and females have been slower to apply. The predominance of men on faculties not only perpetuates this view but deprives young adults—both male and female—of the opportunity to interact with talented female scholars. Universities need to make it widely known that women are welcomed into academe on an equal basis with men.

Effects of Antinepotism Rules

The Modern Language Association (160) reported that only 23 percent of the 254 universites they surveyed had no antinepotism rules. The AAUW survey found that almost 35 percent of the 454 schools responding had specific antinepotism policies. These were most frequent at large schools and least evident at private schools, small schools, and women's colleges. Most of these rules pertained to husband-wife, parent-child, and sibling relationships in the same way, but the husband-wife relationship was the one most often specifically mentioned. There was also an indication that antinepotism rules are most often enforced for husbands and wives.

Legislation restricting sex discrimination in higher education will probably modify antinepotism rules on many campuses (at least in written policy if not in actual practice). The most common antinepotism provision, currently stated in affirmative action programs, resembles this one from Ohio University:

> An individual employee or prospective employee shall not be discriminated against because a member of his or her family is also employed by the institution. . ."Family" here is to be under-

stood to include husband-wife, parent-child, and sibling relationships, even if the persons involved do not live in the same household. An employee shall neither initiate nor participate in departmental decisions concerning another member of his or her family with regard to initial appointment, retention, salary, tenure, and promotion. Only under the most unusual circumstances should a person exercise significant supervision with respect to another member of his or her family.

In view of the present predominance of males in faculty and administration in higher education, women who are wives of faculty in their own fields of scholarship or wives of administrators will suffer certain disadvantages, even under these liberalized provisions.

As Graham (96) and Simon, Clark, and Tifft (225) have pointed out, antinepotism rules work against the employment of women Ph.D.'s and discourage wives of academic men from seeking the doctorate. While these effects seem likely to be less common in the future, they will not soon disappear.

SUMMARY – INSTITUTIONAL BARRIERS

There are clearly many factors in the structures and processes at all levels of our postsecondary educational institutions, and in the attitudes of both the staff and the student populations, that mitigate against women's pursuit of postsecondary education. The barriers set up by institutions alone lead one to wonder how women do pursue and complete such education. Situational and psychological barriers at work within the systems will be examined in the next chapter.

III. SOCIAL CONSTRAINTS

During the middle decades of the 20th century, the democratic ethos became a clear and potent force in revising assumptions about the accessibility of post-secondary education. These decades witnessed the move toward the belief that education beyond high school should be available to all and that society had an obligation to eliminate obstacles which might obstruct the attainment of this goal, regardless of an individual's social class background, economic circumstances, ethnic or racial group membership, or sex. Large amounts of public and private funds were poured into the effort to meet this obligation.

The social contraints imposed upon the pursuit of education by women may be examined as functions of: (1) Social class and ethnic or racial group membership; (2) family circumstances, including number and ages of dependents, roles of family members, financial resources, and place of residence; and (3) community attitudes. Although these factors are interactive and interdependent, by examining them separately we may obtain a clearer comprehension of the variety of constraints and of their differing effects on different populations of women.

CONSTRAINTS ASSOCIATED WITH SOCIAL CLASS AND ETHNIC OR RACIAL GROUP

The relationship between social class and the educational attainment of women is only partially independent of ethnic or racial group membership; however, designs for data collection have tended to focus on one or the other set of factors. Until recently, the effects of social class factors received most attention.

Social class is a status found within all ethnic or racial groups. Therefore our attention will be given first to the social class status of women in the society as a whole and then, after an examination of ethnic and racial variables, the available data concerning the effects of social class within specified ethnic and racial groups will be considered.

Effects of Social Class

In studies of the relationship between social class and educational attainment, the usual measures of social class are family income, occupation of head of household, and parental education. In this system of stratification, the family is clearly the basic unit. Since adult males are always classified as "head of household" when they are living in family units (according to Census Bureau regulations), the social class status of most women is a function of the social class status of the male "head" of her household (1). This condition holds whether the males in question are husbands, fathers, brothers living with adult sisters, uncles living with adult nieces, the male member of a common-law partnership, and so on. It holds regardless of whether the male actually carries the primary or major responsibility for the support of the household. Thus, in her family of origin, a woman's social class status is equivalent to that of her father; when she marries or enters into some other arrangement for sharing a household with an adult male, her social status is determined by that of the adult male with whom she is living. Only if there is no adult male in her household is a woman's status self-determined.

For this reason, data on the relationship between social class and educational attainment should be examined separately for girls and young, unmarried women living with their parents and for adult, married women. Marriage may raise, lower, or leave unchanged a woman's social status. If marriage changes her status, her postmarital educational activities may reflect interaction between values derived from her parents' social class and those derived from her husband's. Consideration will be given first to sources concerned with girls and young women whose social class status is derived from that of their fathers.

According to Cross (56), women whose parents are of high socioeconomic status are almost as apt to aspire to and attend college as are men with parents of similar status; at lower parental status levels, however, sons are more likely than daughters to aspire to and attend college. Furthermore, Hilton and Berglund (112) found that high-ability boys of low parental socioeconomic status were more likely than girls of similar ability and status to enter college. Cross (53) reported that 25 percent of the high-ability (top quarter) males from the lowest socioeconomic quartile fail to enter college compared to 40 percent of the high-ability females.

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Cross (56) further pointed out that "the largest reservoir of academically superior young people who are not now attending college consists of women from the lower socioeconomic levels."

Komarovsky (133) found (in the majority of the 58 familes she studied in a metropolitan suburb) that white, native-born, Anglo-Saxon, Protestant blue-collar workers and their wives valued college education for their sons but regarded it as a "dispensable luxury" for their daughters. Cross (56) believed that cultural stereotyping of sex roles is greater among lower social classes; she suggested that the failure of young women to take the same advantage as young men of the opportunities offered by public community colleges may be evidence of such stereotyping. Froomkin (89) found that college-educated mothers tended to desire college for sons and daughters equally while mothers with only grade school education were more apt to desire college for sons than for daughters.

Because in all forms of postsecondary education women are more likely than men to depend on parental support, Husbands (118) observed that sex discrepancies in financial aid would help to keep daughters of less affluent parents out of college. Baird (22) found that at all levels of undergraduate academic achievement, financial difficulties were cited by more women than men as a reason for not immediately entering graduate school.

The American Council on Education (12) reported that, in the fall of 1972, women comprised 43.7 percent of students enrolled in public 2-year colleges, 10.7 percent in 4-year technical institutions, and 38.5 percent in private universities. Possibly class differences in sex stereotyping of vocational roles contribute to the sex differential in community college enrollment, since community vocational programs in traditional "women's" occupations (except for nursing) generally consist of more extensive training in fields for which shorter-term training is available elsewhere.

Wolman and her colleagues (184) in a study of primarily lower-status students, found that for 61 percent of the women but for only 50 percent of the men the "most important goal in taking the program" was to "obtain skills to find employment"; for 25 percent of the women but only 16 percent of the men another important factor was the availability of a short training program. There were also marked sex differences in long-term educational aspirations: 38 percent of the women but only 20 percent of the men did not expect to go beyond the level of the current program, while 36 percent of the men but only 19 percent of the women expected to eventually attain a graduate degree. For a majority of these females, attainment of vocational skills seemed a more salient goal than long-term pursuit of higher vocational and educational goals.

However, Husbands (118) noted a positive relationship between vocational goals and college education among lower class girls who aspire to and attend college. She cited Douvan's finding that lower-status girls who aspire to college view higher education as an area for achievement associated with vocational goals more often than do high-status girls. She also cited Wegner's finding, from a followup of University of Wisconsin graduates, that for women, high ability, low socioeconomic status, and "late marriage" (marriage after college) were important predictors of whether or not a woman would go into graduate work, where for men, the main predictor was college grade-point average. She noted Rossi's comment that women college graduates with high aspirations often come from homes "where the father has not been a successful breadwinner and the mother has been dissatisfied with the relationship." Husbands also suggested that, in college, lower-status women may not have the opportunity to join the social circles that emphasize "fun"; a lower-status young woman motivated to enter college to pursue vocational goals is more apt to persist in higher education than is the higher-status young woman whose motivation is more social. The relationship between vocational aspiration and educational attainment for females, and its interaction with socioeconomic status, could be studied much more extensively through followups of female graduates from different types of institutions and programs, and different social class backgrounds, over several decades.

Although class differences in socialization practices supposedly contribute to class differences in women's educational participation, Husbands (118) pointed out that there is much speculation but little hard evidence in this area.

Kagan and Moss (124) found only negligible relationships between protection and restriction of girls during the early years (practices often attributed to lower-status parents) and dependent behaviors in adulthood (except that protection of girls during the years from 0 to 3 was highly associated with adult withdrawal behavior). Maternal behavior during the earliest years of life might be a better indicator of the actual values underlying childrearing practices than later childhood practices. They found some relationship between the mother's social class and her maternal

behaviors toward daughters, but not sons. Better educated mothers were "more critical and more acceleratory" toward their daughters between the ages of 6 and 10. They also found a highly significant correlation (.69, $p < .001$) between the educational level of mothers and "intellectual concern" in daughters as adults, and a significant correlation (.49, $p < .01$) between mother's educational level and "achievement behavior" in daughters as adults. Moreover, the correlations between fathers' educational level and these behaviors in adult daughters were even higher and equally significant. Social class differences in socialization practices may therefore help account for social class differences in the educational aspirations and attainments of women.

Since the socioeconomic status of parents is reflected in the educational attainments of daughters, the degree to which an adult woman seeks to continue or resume her education will, in general, differ by social class. Since the social status of married women is determined by that of their husbands, a woman of middle class origins married to a lower-status man may encounter some of the same obstacles encountered by a woman of lower class origins who marries within her own class.

One set of obstacles, primarily economic, includes lack of financial resources and attitudes associated with investment of money in the education of a woman. This is reflected in the findings of Johnstone and Rivera (121). They found that high proportions of *both* men and women of lower social status stated that they could not afford adult education. Of those under 45 years of age, 79 percent of the men and 74 percent of the women made this statement; of those over that age, 63 percent of the men and 66 percent of the women concurred. For men and women of middle socioeconomic status under 45, 45 percent of men and 53 percent of women gave "could not afford" as a reason for noninvolvement in adult educational pursuits; of those over 45, 19 percent of the men and 34 percent of the women gave that reason. Lack of money appears to be as much an obstacle for men as for women in the lower classes, but more of an obstacle for women in the middle classes. This study of a national sample, however, was carried out in 1962, before continuing education centers stimulated increased educational activity among mature middle class women.

Johnstone and Rivera also found, however, that the higher the level of previous education, the greater the tendency to participate in adult education. In a later study of mature women in a suburban county, Westervelt (265) found similar patterns among women seeking educational and vocational guidance at a pilot guidance center supported by the State University of New York. Counseling records indicated that the lower the level of previous education, the less the comprehension of the amount of education needed to pursue given vocational goals. Some women who had completed only short-term vocational training in youth (e.g., in beauty culture) resisted the need for a bachelor's degree in education to teach that vocation in a public high school. Also, a larger proportion of lower class women than middle class women felt they could not afford further education. Lower class wives and husbands were more apt than middle class wives and husbands to consider such an investment as inappropriate. However, Westervelt's survey of guidance center participants and nonparticipants revealed that the most frequent response to the "most important need at this point in my life" was "more education" (43.5 percent of participants and 42.7 percent of nonparticipants made this response). Thirty-one percent of the participants indicated "training for a job in the future." The salience of the need for more education and on-the-job training did not appear to be a function of social class membership (however, lower class women were underrepresented in the sample) (263).

These studies suggest that, among women, social class membership is not an absolute influence on *perceptions of need or lack of need* for more education, but it is an influence on *perceptions of the amount and type* of education needed. Social class is also, of course, associated with the ability to pay for further education. Unfortunately, there has been no careful analysis of social class differences in women's participation in the continuing education made available to them by a steadily increasing number of colleges and universities during the 1960's and early 1970's. However, informal reports from representative centers strongly suggest that the majority of students have been middle class (262). Walton indicated that programs attracting women of lower status have provided stipends and engaged in active recruitment; an outstanding example is the College of Human Services in New York City (259).

In general, less privileged women receive less exposure to information about opportunities for further education. Lopata (144) studied the effect of education on the social contacts of 571 housewives and married working women and 301 widows in an urban area; the less educated the urban woman, the more probable was her social isolation. The most isolated

were those with education below 8th grade. Social isolation involved not only reduced contact with the world outside the home, but also extended to family members, including the husband. Lopata noted the need for skills obtained through formal schooling, especially since social supports for the lower class woman are being eroded by the breaking up of stable ethnic communities in urban areas, by upward mobility that takes such women out of familiar neighborhoods to social isolation in suburban housing developments, and by rapid social change which creates unfamiliar social structures and processes. Her findings also clearly point to the need for active recruitment of such women to educational programs since they are not apt to learn of educational opportunities through their own contacts.

Obviously, social class is a constellation of factors—social, economic and cultural. Ethnic and racial group membership, which also influence women's educational activities, are discussed in the following section.

Effects of Ethnic or Racial Group Membership

Women in a number of white ethnic groups and most racial minority groups are generally less apt to pursue postsecondary education than are other American women. Data on white ethnic women are considerably more sparse than are those on women of nonwhite races; researchers have been more concerned with racial minorities, especially blacks, than with white ethnic groups.

In fall 1972, 85.9 percent of freshmen women described themselves as White/Caucasian, 10.0 percent as black/Negro/Afro-American, 1.2 percent as American Indian, 1.1 percent as Oriental, 1.5 percent as Mexican-American/Chicano, .7 percent as Puerto Rican-American, and 1.8 percent as "other." Comparable percentages for men were, respectively, 88.4, 7.6, 1.1, 1.1, 1.6, .6, and 1.8. Comparable percentages for all freshmen were, respectively, 87.3, 8.7, 1.1, 1.1, 1.5, 0.6, and 1.8 (12). These percentages do not reflect clear patterns of sex differences in college entrance by racial group, except for the more black and fewer white women among freshmen women compared to black and white men among freshmen men.

Knoell's study (131) of college attendance for blacks and whites in urban areas revealed that able white women are less attracted to college than are able black women and may receive less encouragement from college recruiters. Simon and Gagnon (224) pointed out that the educational aspirations of the white working class girl are depressed both by her family's expectations for her (marriage is their top priority for her future) and by the schools typical of working class ethnic neighborhoods. "At no point does the school extend itself to create a commitment to achievement... that was not originally encouraged by parents. While girls do much better academically than boys all the way through school, this is often due to a rote conformity to the 'good girl - cooperative' pattern rather than to a commitment to course materials. The motive is social desirability..." They also commented:

> For some (girls) there is a career interest in nursing, teaching and the other conventional female occupations and they are commonly better prepared academically than are the males. However, the primary goal of these girls is marriage and children and only through the worst sorts of accidents do they become forced into permanent occupational commitments.... the schools reinforce the single model of appropriate womanhood that exists in homes, peer groups, and in the mass media.

Social class differences in socialization practices may therefore be associated with women's participation in education, but these practices may also be associated with values of ethnic groups. Differences among ethnic groups are as great or greater than among social classes. Greeley (97) related values and patterns of social participation in different ethnic groups and pointed out that these characteristics, especially those related to social mobility, are associated with participation in higher education for both sexes. However, the impact on educational participation of women may be greater than that on the participation of men. Hernandez (110) cited a study by Schwartz (216) which found that there were fewer differences in value internalizations between Mexican-American and Anglo-American boys than between Mexican-American and Anglo-American girls. Cross (53) reported lower educational aspirations among Mexican-American girls than among Mexican-American boys.

That black women have high aspirations is found in a number of studies. That black women have higher aspirations than black men is suggested by a report from Survey Research Services (236). In that study 41 percent of the black male students and 59 percent of the black female students graduating from high school in 1971 intended to go to college. In another study of inner-city low-income and outer-city middle-income Detroit, English (74) found higher educational aspirations held among black women than among white,

when controlled by income. At the lower ranges of the socioeconomic scale, blacks tend to have higher educational aspirations for their children than do whites (146). Young black women possess more career-oriented or work-oriented expectations for themselves than do whites (138).

Epstein (75) identified factors that stimulated or facilitated career mobility for 31 black women in law, medicine, dentistry, university teaching, journalism, and public relations: (1) Occupying two negatively valued statuses ("black" and "female") causes one status to cancel out the negative effects of the other (e.g., a black woman in the labor force is less apt than a white woman to be seen as a female in search of a male), (2) the two statuses combined with a professional status tend to create a unique new status (e.g., "black-woman-lawyer") and thus put the occupant at an advantage in the exchange system, (3) the occupant of such a new status is outside most normal social groupings and therefore invests more ambition and motivation in the career roles. Epstein noted additional factors that explain the higher aspirations of black women:

> Black women had readier access than white women to top professions (perhaps they are not regarded as sex objects).
>
> Black maternal role models tend to be ambitious women.
>
> Black families value entry into the professions for both sexes.
>
> Education increased self-confidence more for the black woman than for the white because it is less common.
>
> Education offers the black woman higher economic rewards than the white women (the median income of the college-educated black woman is higher than that of the similarly educated white woman).
>
> Marriage has limited importance to black women, who expect to determine the quality of their lives more by their own efforts than by those of their husbands.
>
> The fertility rates of middle and upper class blacks are low and children are not the source of anxiety that they are for whites.
>
> Black women professionals derive self-esteem from their professional roles and respect each other as colleagues far more than do white women, who harbor a negative stereotype of woman professionals.

However, current patterns of distribution of financial aid and of recruiting among black students may be working to the disadvantage of the black woman. From the early 1960's until the present, emphasis has been on the education and employment of the black male. Moynihan stated in 1965: "The principal problem, and the proper focus of public concern, is that of the Negro male worker" (163). Moynihan and others proposed the hypothesis that the employment status of the Negro male and the stability of the Negro family were causally related (163).

The black male may have the educational advantage over the black female. In 1960, 2.8 percent of black males aged 25 or older had completed 4 or more years of college compared to 4.1 percent of black females. By 1970, 4.8 percent of black males and 4.5 percent of black females aged 25 or older had completed 4 or more years of college (comparable 1970 figures for whites are 14.3 percent of males and 8.5 percent of females (138)). A recent Ford Foundation study (85), cited by Epstein (75), reported that of all black Ph.D.'s in 1967-68, only 21 percent were women. Other studies cited by Epstein (Ploski (190), United Negro College Fund (247)) suggest that, in graduate school, black women are slightly more apt than black men (ratio of 8 to 6.5) to earn master's degrees, but black men are markedly more apt than black women (ration of 5 to 2) to earn Ph.D.'s.

These sources cannot be interpreted as indicating that there are fewer social constraints on the pursuit of education by black women than by white women and women of other races or of specific ethnic groups. As a group black women are more apt than white women to encounter the constraints imposed by low income, low social status, and inferior elementary and secondary education. But given comparable income level, social status, and schooling, the educational aspirations of black women tend to be higher than those of white women and less constricted by cultural stereotypes of feminine roles.

The major factors that lower the levels of educational attainment of women in ethnic or racial minorities appear to be: (1) Cultural values regarding the feminine role and/or life style that are counter-productive for educational achievement, (2) obstacles to postsecondary education posed by low income and low

social status, (3) inferior elementary and secondary preparation; and (4) for some groups, social, geographical, and political isolation (Indians and Eskimos in Alaska and Indians on certain reservations). All of these factors affect the educational progress of men as well as women, with the exception of cultural values where the effect on women is generally greater (although this may not be true for blacks).

CONSTRAINTS ASSOCIATED WITH FAMILY CIRCUMSTANCES

There is no clear dividing line between constraints associated with family circumstances and those associated with social class, income level and ethnic and racial group membership. These factors, as well as the institutional barriers previously discussed, are closely interrelated. This section will deal with: (1) Family attitudes, (2) distribution of roles and responsibilities among family members, and (3) place of residence.

Family Attitudes

The effect of parental attitudes and expectations upon the educational achievements of daughters has already been noted. But for women more than for men, marital status and the attitude of spouses toward continued pursuit of education can also be critical determinants, for women tend to marry at a younger age than do men—in 1970, the median age at first marriage for women was 20.8, for men 23.2 (38). The age difference has remained relatively stable since 1940. At least in part it is a function of greater encouragement by parents for education for boys and marriage for girls. Of course, parental support of educational goals can be a continuing source of motivation even for the married woman. Mitchell (158) found, in a study of 224 women who received the doctorate from the University of Oklahoma, that nearly three-fourths reported their mothers as a source of motivation and help in setting their educational and/or occupational goals.

Nevertheless, marriage tends to deter further education for a woman. Goodwin (93) found that single women who were doctoral recipients had fewer difficulties than did married women. Marriage was given by 42.5 percent of the women studied by Lord (145) as the reason for not continuing their education beyond the bachelor's degree. Astin (19) found that domestic responsibilities associated with marriage were obstacles in the career development of the woman Ph.D. Ruslink (208) found that the greatest deterrents to women's return to college were the needs of their families, especially when these needs conflicted with college demands.

On the other hand, Baird (22) found that among some 21,000 seniors in 94 colleges and universities, at the point of graduation, women college seniors "had about the same personal advantages and handicaps as their male classmates—marital status, socioeconomic background, work experience—and with some advantages in their undergraduate grades." Nevertheless, three-quarters of the women but slightly more than half of the men planned to work full-time after graduation; within both sexes, two out of three expected to have a job that would become a career. Although more women than men expected to be full-time homemakers in the year after graduation, the proportion of women was well below 5 percent. However, of higher-achieving students (those with B-plus or A grade averages), only 40 percent of the women, compared with two-thirds of the men, planned further study immediately; only one out of five of these women, but almost three out of five of the men, planned to eventually earn a doctor's degree. Baird's data suggest that, at the point of graduation from college, women—even those of high ability—tend to have educational aspirations too low to seriously deter marriage; they therefore move into a position where marriage can be a serious deterrent to further education.

Research consistently indicates that the attitude of the husband is a critical factor in determining the wife's educational activities. Feldman and Newcomb (80) stated that married women undergraduates are more likely than married men to feel that emotional pressure from a spouse would cause them to drop out of graduate school. Mitchell (158) reported that only 7.3 percent of the married women Ph.D.'s in her study were actively encouraged in their educational plans by their husbands; the remaining husbands were neutral or nonsupportive. Doty (65) did not find differing attitudes on the part of husbands of students and nonstudents concerning return to college; nearly 95 percent of the women in both groups said that their husbands would approve. However, significantly more of the husbands of students than of nonstudents had attended college and were employed in the professions. "While nearly all women in both groups said their husbands would or did approve of their return to college, it is possible that the environment provided by a college-educated husband stimulates a woman's edu-

cational aspirations." Westervelt (263) found that 51 percent of 364 suburban respondents who were planning to continue their education or return to work reported "husband's approval" as the most important factor in their decision; no other factor was reported by a proportion even half that large. However, among 143 respondents who were not planning to return to education or work, the highest proportion (32 percent) gave as the most important reasons for not doing so "children need me at home"; the next highest proportion (17 percent) gave "husband would not approve."

Arnott's (16) study of the relationship between husbands' attitudes and wives' commitment to employment is also of interest, since there is at least a *de facto* relationship between wives' continuing education and their employment. Her sample consisted of 235 middle class women from women's organizations in southern California, organizations that ranged from feminist groups through moderate groups to antifeminist groups. Using "autonomy" (on a scale she developed) as the chief independent variable and self-reports by the subjects of their role-categories (ranging from full-time homemaker to career/marriage with career dominant) and similar data obtained from subjects' husbands, Arnott found that:

> Women do *seek*, *maintain*, and *restore* congruency between self-concept, role behavior, and the role preference of their husbands; conservative women tend to do so through self-deception and self-adjustment, moderates through self-deception and expectation of mutual adjustment, and liberals through tolerance of temporary tension in anticipation of husband-adjustment.

But "autonomous" women were not willing to adopt role behavior that was extremely incongruent with their husbands attitudes and expectations and these findings suggest that even highly educated husbands are by no means unanimous in their attitudes toward nondomestic roles for wives; as a group they may be relatively more permissive toward wives' activities outside the home than less educated men, but the difference is not absolute. More important, the direction of influence on wives' role behavior is from husband to wife, *and not vice versa.*

Domestic Responsibilities

As one would expect, family responsibilities interfere with a woman's pursuit of education (167, 93, 109, 222, 158, 159). Johnstone and Rivera (121) found that rates of participation in adult education were lower for mothers than for nonmothers but higher for fathers than for nonfathers. Hembrough (109) found in her sample that 52 percent of the married women who attended college had no children, but only 38 percent of a comparable group of women who were not attending college were childless. Such findings suggest that motherhood is the female domestic role most apt to interfere with education.

This role, of course, comprises a variety of responsibilities that vary with ages of children and with socioeconomic and community circumstances. Goodwin (93) reported that it does not appear to be the number of children which presents a problem as it is the age of children; many women had postponed their return to school until their children were older. Doty (65), on the other hand, found no difference in the median number and median ages of children of 40 students and 40 nonstudents who were matched in age, family income, race, physical health, marital status, and residential area. She also found no difference between the two groups in the proportions that did their own housework, a domestic responsibility increased by the presence of children.

Data on changing patterns of labor force participation by age and marital status, combined with reports from major centers of continuing education for women (e.g., University of Michigan, University of Minnesota) show that the median age of women returning students has fallen, and lend support to a hypothesis that mothers are now less inclined than they were a decade ago to believe that young children constitute a bar to education or employment. Kreps (135) reported:

> Between 1964 and 1969, participation rates for twenty- to twenty-four-year-old mothers of children under six rise from 24 to 33 percent, and for twenty-five to thirty-four-year-old mothers of children under six it rose from 22 to 27 percent. Women's current clamor for day-care centers would seem to indicate a desire to work during this period, if arrangements for children are available.

She also commented that "the 'drop-out' for women in their twenties and thirties may be lower in the future." If this proves to be the case for employment, it is also likely to be the case for education, especially since attractive part-time educational opportunities are more widely available than are attractive part-time employment opportunities.

The nature and scope of a woman's domestic roles, however, vary by social class and income level. The higher the level of the husband's education, the more

positive his attitudes towards his wife's continuing education. Studies of working class families by Komarovsky (133) and Rainwater (197) portray husbands' attitudes towards wives' roles as constricting for the wives and as more conventional than those of the wives, who nevertheless accept them. Fengler (82), who studied 182 wives in a medium-sized city in the Midwest, found that a majority of wives gave high value to parental responsibility, regardless of husband's education. Aldous (12) interviewed 122 white and 46 black working class married males in a city in the Midwest. Black men whose wives are working perform fewer family tasks, while white men with employed wives appeared to be about as active in the home as men whose wives were full-time homemakers. At least for black women, employment outside the home may increase responsibilities within the home, while for white working class women, such responsibilities may not decrease when they are employed.

For women heads of households—many of whom have an economic need for further education—obstacles to educational activity may be very great. In March 1972, 22 percent of all heads of households in the United States were women (248). Furthermore, the number of women heads of households has increased by 46 percent in the last decade, while that of male heads was increased by only 17 percent. Of these women, 41 percent, or 6,108,000, are heads of families; the balance are individuals living alone, of whom 52 percent are over 65. Of women who are heads of families, 56 percent are between 35 to 64 years of age; women heads of black families are usually younger than their white counterparts. Although there are three times as many white as black women heads of families, the families headed by white women comprise only 9 percent of white families, while those headed by black women comprise 32 percent of black families. Comparable proportions of women heads among Mexican-American and Puerto Rican families are 14 and 69 percent, respectively.

The potential economic benefits of further education for these women are clear from statistics on their educational attainments, labor force participation, income, and family responsibilities. Of white female heads of families, only 17 percent had more than a high school education (only 7 percent had 4 or more years of college), while of black female family heads, only 9 percent had more than a high school education (only 3 percent had 4 or more years of college and 37 percent had 8 or fewer years of education). Fifty-five percent of white and 49 percent of black female heads of families were in the labor force in March 1972. As statistics on educational levels would suggest, the great majority were employed in low-status, low-paying occupations. The median income of families headed by women was $5,114 in 1971 compared to $10,930 for families headed by men. There were over 9 million children under 18 years of age in these families headed by females in March 1972. Of these children, more than 3.9 million under 14 years of age were living in families with incomes below the poverty level (as established by the Social Security Administration).

Obviously, these women heads of families with children face almost insuperable barriers to the pursuit of education. Robinson, Paul, and Smith (203) report that 3 out of 5 women interviewed in their study of Project Second Start had no husband living with them. Women in this Project were classified as "low-income"; they had incomes $9,000 or below, but above the poverty level. (Since financial aid to Project students was extremely limited, women at the poverty level could not be easily recruited.) Although no data was tabulated on the problems faced by these women without husbands, a recurring theme in interviews was guilt about leaving young children and financial and time pressures. Among the recommendations resulting from the study were free tuition for City University of New York adult education students, stipends for full-time study, extended child care services (6 days and evenings a week, and evening programs for teenage children), devices for credit for life experience, relaxation of restrictions on transfer credit, and devices for expediting and accelerating the rate of academic progress. The need for stipends is documented by the experience of the College of Human Services which offers stipends and has been able to recruit from the lowest income levels; over 41 percent of its students in 1969 were separated, divorced, or widowed (259).

The material reviewed here appears to indicate that cultural emphasis on a woman's family responsibilities imposes a constraint on her educational pursuits; however, the weight of this emphasis varies with a number of factors—social class, education, age, religious affiliation, ethnicity and race, and income. Furthermore, there is evidence that when institutions provide educational opportunities that enable women to combine academic and family responsibilities, women take these opportunities. The constraining effect of family responsibilities on women's educational activities is most potent when combined with institutional rigidities.

Place of Residence

Several factors associated with residence may impose restraints upon women's educational activities. For example, lack of privacy for study may affect students or would-be students of all ages and both sexes, but may be more severe for a parent of young children. Goodwin (193) and Shoulders (222) both found this to be a problem for married women living in crowded conditions and/or with preschool age children.

Distance from educational institutions may also be more limiting to women than to men, especially to married, mature, and/or employed women. Mitchell (158) found that women with doctorates indicated that proximity to the institution was the most important factor in selection of a graduate school. Doty (65) reported that equal proportions of the mature women students and nonstudents in her sample lived within 20 miles of an institution offering a degree program; but 50 percent of the students said they would not have enrolled if a college had not been easily accessible. Robinson, Paul, and Smith (203) indicated that both the students who persisted in Project Second Start and those who dropped out felt that the potential dangers, discomforts, and time consumed in traveling to and from school added heavily to the burdens of undertaking continuing education; they urged the establishment of more programs in different parts of the city.

Women in rural areas are effectively cut off from educational opportunities on college and university campuses and in vocational and technical schools located in urban centers. Women living in housing developments with no public transportation are also affected if there is only one car in the family. For women geographically cut off from institutions, the most hopeful trend appears to be the growth of "open universities" and similar nontraditional, off-campus programs.

CONSTRAINTS ASSOCIATED WITH COMMUNITY ATTITUDES

The major constraints associated with community attitudes are those imposed by lack of appropriate educational opportunities. Public investment in education, especially at the postsecondary level, reflects public attitudes toward education, and there is considerable variation among States and among areas within States. An obvious example of the relationship between public opinion and educational resources is found in those States where the establishment of a community college depends upon an affirmative vote of the governing body or bodies of the county or area to be served. According to Mushkin (166), the general rule is that the higher the per capita income in a State, the greater the access to higher education. But Willingham (268) noted that more free-access schools are found in the West than in the Northeast, which has a longer history of private higher education. Johnstone and Rivera (123) found a higher participation rate in adult education in Western States.

Higher education for adults has been designed mainly for students who can pay for their education. Adult programs are expected to "pay their way" even when tuition is free for younger students. Financial aid resources for adult, part-time students are extremely limited; financial difficulties for women are heightened by their more limited access to money through income and loans. Sex discrimination by lending institutions reflects attitudes about women as responsible borrowers.

Another reflection of community attitudes is the lack of moral and financial support for centers that would disseminate information to women about educational and career opportunities. Women's agencies and leaders have advocated this for over a decade (191), but only a few hundred such centers* are scattered throughout the country, many of them on college campuses and not visible to all sectors of the women in the community (247). Lack of such centers is a handicap to educational planning, for their very absence contributes to the persistence of unrealistic counseling of high school girls and to the continuing failure of many communities to recognize the educational and vocational needs of women.

Women more than men are exposed to community pressures to engage in volunteer activities at the expense of other involvements outside the home. Goodwin concluded that "internalized societal pressures" operate against women in academic pursuits. Goodwin (93) quoted a woman with a doctorate:

> Emotional drain of pressure to excel in all roles—student, mother, wife, educator, community work, etc. is almost unbelievable and only the unusual person can survive.

*A new listing of these centers will soon be published by the Project on the Status and Education of Women of the Association of American Colleges.

It has also been observed, however, that dissatisfaction with volunteer work may provide a stimulus for returning to school; more than half of the women in Doty's sample (65) gave dissatisfaction with club work and related activities as a reason for returning to college. Informal reports from directors of centers of continuing education for women in many parts of the country indicate that women entering continuing education who have been active volunteers express dissatisfaction with such work as an outlet for their interests.

Because community attitudes that limit women's educational opportunities are partly a function of cultural stereotypes about women, they will change slowly. Since many of them are reflected in institutional barriers to women's education, leaders of institutions should take the responsibility of lowering these barriers, in the expectation that the resulting rise in women's education will result in more positive community attitudes toward providing educational opportunities.

The residential mobility of many of today's families is a major obstacle to educational attainment for married women, particularly if moving occurs before they have completed a program of study. One obvious possible hazard is that the move will be to a location where the education they seek is no longer accessible. Another frequent difficulty, especially (but not exclusively) for graduate students, is loss of credit because of restrictions on credit transfer (discussed under Institutional Barriers). More than 60 percent of the women in Hembrough's study (109) reported uncertainty about continuing their studies because of possible mobility. Goodwin (93) found that, for women recipients of the doctorate, mobility ranked third in the group of deterring factors (the first two were family relationships and time management). Ruslink (208) reported that mobility because of husband's career is a more frequent concern for women under 30 than for older women. Morse and Burch (161) and Riesman (200) pointed out, however, that absence of family mobility can also be a deterrent to education for a mature woman, if she sees little or no opportunity for related employement in her area of residence. Riesman notes that certain careers can be pursued in only a few places.

The effect of residential factors on women's education is greatest for married women whose freedom of decision about place of residence and adequate privacy for study is limited by family considerations. Some of these factors, especially distance from educational institutions and availability of reasonable, convenient, and safe transportation, also seriously deter the educational development of single young women, especially those from low-income families. The tendency of such families to place less value on education of girls than of boys, and the greater vulnerability of women to dangers associated with travel, particularly in urban areas, would make these factors greater deterrents for young women than for young men.

SUMMARY–SOCIAL CONSTRAINTS

Social constraints on women's educational achievements operate differently for women of different social classes, ethnic groups, races, income levels, places of residence, types of residential area, and for women of different ages and family responsibilities. Modifications in institutional arrangements will eliminate or alleviate some problems and will also help change attitudes towards women's roles. Some constraints stem from conditions outside the control of educational institutions; in this sense the question of increased educational opportunities for women is one aspect of larger social, political, and economic issues.

IV. PSYCHOLOGICAL FACTORS

If this chapter were to contain an extended exploration of the nature and origins of all the psychological influences on women's educational patterns, it would be by far the longest in the review. However, that is not the purpose here. The primary focus of this review is identification of barriers to women's postsecondary education that stem from institutional and social practices, especially as women perceive them, rather than on the extremely subtle and complex forces and processes of female psychological development with which these practices interact. Moreover, there is as yet no generally accepted, organized body of knowledge about the psychology of women from which we might draw tenable generalizations about fundamental psychological factors associated with the various educational choices women make.

Therefore, this chapter will be limited to very brief summaries of material from representative analyses and studies in pertinent areas. The areas which will be considered are: (1) Current status of theories regarding the psychology of women, (2) sex differences in intellectual functioning, (3) attitudes of women toward self and self in relation to others, (4) motivation for achievement, and (5) psychological correlates of socialization practices. Within each area emphasis will be placed on theory and research clearly relevant to women's educational aspirations and attainments.

CURRENT STATUS OF THEORIES REGARDING THE PSYCHOLOGY OF WOMEN

Theorists who have attempted to develop a psychology of women have tended to derive their definitions and measures of female characteristics from a male model--they conceptualize female characteristics as differing from male characteristics in degree rather than in kind. The conceptual foundations of human behavior theories inevitably contain certain implicit, sometimes even unconscious, assumptions about humankind, derived from the history of attitudes toward women throughout most of Western civilization. With few exceptions these attitudes were founded on the axiom that the female exists in relationship to the male, while the male exists in relationship to the entire universe (34).

Scholars whose views on the subject of women are as disparate as those of Carl Jung (122) and Simone de Beauvoir (58) agree that to man, woman is the "Other." Most early students of a psychology of women were males, who, as heirs of Western civilization, valued rationality and assumed that the cognitive processes of the male provided a model of the rational. When women did not fit that model they were judged to be less rational than males and more prone to follow the dictates of sensation than those of cognition. This perspective made women a "special case" in psychology (no great effort has been expanded on developing a "psychology of men") and also led to speculation and theorization about the effect of a woman's body on her psychology. This emphasis, as in Freud's dictum "anatomy is destiny" and in his concept of "penis envy," sparked controversy, especially among early 20th century women psychologists such as Horney (114) and Thompson (239).

This controversy helped to distract attention from other issues, such as the impact of socialization on development of the female, the implications of sex differences in chronological development, the possible interaction between sex differences in endocrine processes and sex differences in cognitive functioning, and, perhaps most important, the impact of culture on theories of the psychology of women. In the psychology of women, culture has tended to shape theory, while theory has failed to take account of culture.

Within the past 2 years Bardwick (23) and Sherman (221) completed studies on the psychology of women. Both works attempt to integrate a large body of biological, psychological, and sociological data into a framework for further study of the feminine personality. Both move beyond the limits of earlier arguments addressed to narrower issues and both strive to identify norms for female behavior that are not derived from norms for male behavior. Neither, however, appears to have quite escaped the impress of culture on thought. For example, Bardwick stated:

> . . .the stereotyped male, like the stereotyped female, is not creative. . . .Many studies now conclude that the really creative individual combines "masculine" and "feminine" personality qualities. . .a high degree of bisexuality exists in those who are truly creative. . . .The creative person resists pressure to be limited and conform to the sex-role stereotype.

She also stated (this statement, like the one above, appears in italics in the study):

> The only way to achieve a feminine sense of identity, *if one has internalized the general norms,** is to succeed in the roles of wife, helpmate, and mother. . . .when self-esteem within the traditional roles has been won, we may perceive a switch to an internalized sense of self and sense of confidence. . . .The difference between (men and women) is that the goal of esteem and identity is achieved much later in life by women and is primarily achieved in the traditional, intense, and important relationships rather than in occupational achievements.

Sherman, making the point that efforts to "emancipate" women for equality with men will fail, commented:

> The welfare of mankind depends on the cooperation of the sexes. The activity and achievement patterns of both sexes have probably been determined by this very basic expectation of cooperation between the sexes.

Both authors base their arguments for the existence of a basic drive on the part of women to give primacy to traditional female roles on the powerful influence of generalized norms for sex-typed behaviors or ideals for the feminine identity. But implicit in both arguments is the assumption that maternity will continue to be a viable, available option for the great majority of women. There may be a danger to the mental health of future generations of women in tying the full achievement of "feminine" identity to maternity.

Doherty (62) remarked:

> . . .even studies which attempt to present, without obvious bias, data on sex differences resort to an identification of woman with mother. For example, the following statement by Lynn (1972) concludes a discussion of different cognitive styles in women and men: "In conclusion, I hope that women can add much that is uniquely theirs to our vocational and public life. I join with Erik Erikson in the wish that when women gain full participation they will add maternal concern to the cares of world governing."

> For my own conclusion I hope that psychologists will begin to develop theories of personality based on observations and studies of contemporary women and men and that, in the meantime, counselors of women will adopt a critical stance with respect to current personality theories and investigations of sex differences.

Theories of the psychology of women will constitute an obstacle to women's pursuit of education until psychology can attain a comprehension of female development and identity that is (1) Independent of the male prototype; (2) not clouded by the image of woman as mother, and (3) relevant to current and emerging roles for both sexes.

SEX DIFFERENCES IN INTELLECTUAL FUNCTIONING

Research on sex differences in psychological traits has been going on since the earliest decade of the century, and is still a very active research area. Major summaries of such research are, in chronological order: Terman (237), Tyler (244), Anastasi (15), Maccoby (149) (which includes Oetzel's annotated bibliography and classified summary of research in sex differences), and Garai and Scheinfeld (90).

Sex differences in intellectual traits are obviously associated with sex differences in educational patterns but the relationship is almost surely interactive rather than causal. Maccoby (148), in an excellent summary of sex differences in intellectual functioning made these major points:

> On general intelligence, most findings indicate that girls test higher during the preschool years and boys test higher during high school years (possibly a function of the higher dropout rate for boys).

> Changes in general intelligence during late adolescence and adulthood appear to favor men

*Emphasis is supplied, since Bardwick, earlier in the study, demonstrated that such internalization is usual.

somewhat, but extent of decline or gain for women depends on the test used (tests of general intelligence are standardized to minimize sex differences, so degree of sex difference varies with tests, depending on the balance of items on which one or the other sex excels).

Up to the age of 10, girls score higher in most aspects of verbal ability; thereafter sex differences are minimal, except that girls continue to excel in grammar, spelling, and word fluency.

In number ability, there are no consistent differences during the early years, except that girls learn to count earlier, but by high school age and beyond, males excel at "arithmetical reasoning"; there are, however, no sex differences in arithmetical computations, except that men's arithmetical ability accelerates more than women's during early adulthood.

On tests of spatial ability very young boys and girls do not differ, but from early school years on, boys consistently excel.

For analytic ability the evidence is less clear, partly because the term has several meanings that are tapped by different tests; sex differences on this constellation of traits are generally not found in children under 5 years of age but soon thereafter boys begin to excel.

Creativity is measured in a variety of ways for a variety of meanings; one component is the ability to break set or restructure a problem, on which males tend to excel; another component is divergent (as contrasted with convergent) thinking, for which inconclusive evidence seems to favor girls.

Girls get better grades than boys throughout all levels of education, even in subjects in which boys excel on standard achievement tests. However, the academic achievement is not reflected in occupational achievement in adulthood; although gifted boys tend to realize their potential in adult vocational and creative performance, gifted girls do not.

Maccoby pointed out that these findings are not clear-cut evidence of the *extent* of difference between the sexes on any of the measured traits, in part because of variations in tests and in part because of the problem of lack of precision between units on a scale of measurement. There is notable overlap in distribution of scores for the sexes on all of the measures reviewed. Therefore, to say that, on the average, girls exhibit more or less of a given trait than boys is *not* to say that all girls, or even a large majority of girls, will do so.

Furthermore, patterns of sex differences in abilities tend to shift with advancing years, raising the question of the relative weight of genetic and environmental influences as contributing factors. Maccoby noted that chronological changes in sex differences in cognitive performance seem to parallel sex differences in chronological physiological development. That is, girls mature physiologically faster than boys, paralleling sex differences over time on tests of general intelligence and verbal ability. However, Bayley (26) found no relation between rate of intellectual growth and rate of physical growth when both were scored in terms of mature growth attained. There is no evidence that women begin to age earlier than men, and therefore this cannot be used as an explanation of the fact that a gradual decline in some aspects of intellectual functioning appears to set in earlier among women. Maccoby concluded that differences in rates of physiological development are an explanation of sex differences in rates of intellectual development.

The possible effects of environmental factors will be considered in our discussion under Psychological Correlates of Socialization Practices. There are also, however, personality correlates of intellectual characteristics which, Maccoby reported, tend to be different for the two sexes. The major correlates noted by Maccoby are:

Impulsiveness (or impulse control) is a negative factor for some aspects of intellectual development in boys, but for girls is at least a less negative, and possibly even a positive factor.

Anxiety correlates negatively with measures of aptitude and achievement for girls and women, but correlations are either low negative, zero, or positive for boys and men.

Agressiveness appears more apt to inhibit intellectual development in boys and to facilitate it in girls.

Boys are more likely to accept an intellectual challenge and girls to turn away from one; when this tendency is found in girls, it appears at about

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the onset of puberty and may well be associated with perceptions of the adult female role; it may also be a function of girls' underestimation of their intellectual capacities.

Several studies have found a positive correlation between cross-sex-typing and superior performace on measures of analytic thinking, creativity, and general intelligence. Cross-sex-typing is the tendency for boys and men to score higher than average for their sex on "femininity" on various measures, and for girls and women to score higher than average for their sex on "masculinity." Passivity and dependency correlate negatively with performance on various intellectual tasks for both sexes; independence correlates positively for both sexes.

Several recent studies of sex differences in mental abilities are worthy of mention here. Backman (21), in an attempt to isolate the relative effects of sex, ethnicity, and socioeconomic status (SES) on patterns of mental abilities, found that sex accounted for 69 percent of the total variance, as compared to 13 percent for ethnicity and 2 percent for SES, and that the effect of sex increased with age. Backman pointed out, however, that the test of verbal knowledge, which was the general factor measured,* was loaded in favor of the male due to the types of information tested (the English and mathematics measures tested school-related experiences so that scores would reflect different curricula followed by girls and boys). Girls excelled in grammar and language usage, visual-motor coordination, and recall for verbal symbols.

Wallach (257), reviewing studies of the correlation between school achievement and creativity in adult life, stated that ideational productivity appears to be independent of academic proficiency across the intermediate-to-high academic skills range; such ideational productivity was associated with creativity for both sexes, while for neither sex did intelligence tests scores predict creative student attainments (although they do predict scholastic achievement).

The hypothesis—occasionally encountered in rhetorical discussions of sex differences in intellectual functioning and patterns of mental abilities—that such differences are in part a function of sex differences in the relative cognitive dominance of the left and right hemispheres of the brain*—has received no support from Bogen and his colleagues (31). Three samples of men and women drawn from three different cultural and racial groups showed cultural differences, but not sex differences, in lateral specialization of the two hemispheres.

None of the material reviewed here firmly supports the statement that women's patterns of educational development are foreordained by genetically determined patterns of intellectual endowment. It does, however, raise questions about the influence of social factors on intellectual development in the sexes.

ATTITUDES OF WOMEN TOWARD SELF AND SELF IN RELATION TO OTHERS

Westervelt (262) remarked:

> The constellation of characteristics that comprise the American stereotype of "femininity" is reflected in attitudes toward women, in images of women in the media, and according to research, in the behaviors, self-perceptions, and self-ideals of a great many American women. These characteristics include passivity, dependence, emotionality, timidity, concern with personal relationships, narcissism, attentiveness to detail, a tendency toward perceptual and intellectual functioning that is more holistic or global than analytical, a need to maintain order and stability, and a preference for nurturing rather than for manipulative or competitive activities. Obviously, not all of these are negative or undesirable qualities, although our culture does place higher value on some of their opposites; also, obviously, very few people possess all of them and all of them are found in men as well as in women. Nevertheless, these are the most salient characteristics of the feminine stereotype to which advertisers appeal, which employers and teachers expect females to fit, and which many parents are far more willing to accept as "normal" in their daughters than in their sons.

Measures have been developed to explore how this sex stereotype is reflected in the self-concepts of

*Other factors measured were grammar and language usage, high school mathematics, reasoning with special forms, visual-motor coordination under speeded conditions, and short-term recall of verbal symbols.

*Propositional, or linguistic, thought is believed to be a function of the left hemisphere, and appositional, or nonverbal, sensory thought is believed to be a function of the right hemisphere.

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women and in men's perception of women, how these qualities compare to those attributed to the male stereotype (i.e., aggressiveness, competitiveness, autonomy, independence, dominance, courage, emotional control, analytic intellectual style, and flexibility). The mixed results indicate that acceptance of stereotypes of feminine characteristics and role is reflected in the self-concepts of many women and in many men's perceptions of women; these perceptions are associated with a negative valuing of much that is stereotyped as feminine. Sex-role stereotypes held by men and women, women's self-concepts, and women's perceptions of others' expectations also influence women's educational aspiration and attainments.

Rosenkrantz and his colleagues (204) found strong agreement between college men and women regarding differences between men and women. Both sexes tended to value masculine more than feminine characteristics in either sex; the higher value placed on masculinity was a function of the fact that more male than female traits are positively valued. Self-concepts of women and placing higher value on more masculine than feminine characteristics, may mean that womens' self-concepts are more negative than mens' self-concepts. The finding is particularly striking because the female subjects were highly selected college women who tended to excel over their male peers in intellectual performance, at least as measured by grades.

The Brovermans and their colleagues (32) found that clinical psychologists, psychiatrists, and social workers (46 men and 33 women) made clinical judgments about the characteristics of healthy individuals that differed by sex of person judged; i.e., characteristics judged healthy for a female were not judged healthy for a male. These differences paralleled stereotypes of sex-role differences, and behaviors and characteristics judged as healthy for an adult of unspecified sex (in other words, the behaviors and characteristics judged as ideal standards of mental health) resembled behaviors judged healthy for men but not for women. Thus, clinical judgment of mental health in men and clinical judgments of mental health in women reflect sex-role stereotypes and a double standard of mental health. They also indicate that traits stereotyped as masculine are judged by clinicians to be more healthy than those stereotyped as feminine. Moreover, male and female clinicians concurred in these judgments (there was no significant difference by sex of the clinician on any of the measures), a finding which again implies that females devalue stereotyped femininity although they regard it as "normal" for women.

Goldberg (92) asked male and female college students to evaluate identical essays which in some cases were attributed to a woman author and in others to a man. Students consistently placed a lower value on essays purportedly written by a woman than on those purportedly written by a man, even on qualities in which women are considered to excel (e.g., verbal fluency), and even when the essay was in a "woman's field" (e.g., education).

Women tend to accept themselves as inferior to males, and males concur in this judgment; it may be that women accept a male evaluation of "feminine" characteristics and a male stereotype of femininity. Tobias (241) suggested that feelings of inferiority are a barrier to academic success for women; she believes that women are inhibited in classroom discussions by the fear of being regarded as bizarre if they make original comments. She observed: "Women students have been rewarded in high school for being passive, dependent, and avoiding conflict. Meanwhile, aggressiveness, active learning, and independence are rewarded in college, so they are constantly battling the old values against the new."

Some of the data regarding women's self-concepts and perceptions of others' expectations is less clear-cut, however. Morgan (161) found that both career and noncareer women saw a larger discrepancy between "ideal woman role and the feminine role than between the feminine career role and the masculine career role"; she did not find differences between career and noncareer women in these role perceptions. Edwards (72) found that women who were marriage-oriented, or wished to manage both these roles, were not different in their perceived values of "significant others," such as parents or husband, but the relative importance to the woman of the "significant others" varied with the woman's role preferences.

Steinmann and her colleagues, in related studies (232, 233), found that women perceived their "real" selves and their "ideal" selves as essentially alike, with equal components of active and passive orientations; but these women felt that the ideal woman as perceived by men was significantly more passive and accepting of a subordinate role in personality development and in the family structure. However, other data indicated that men's ideal woman is not significantly different from women's own ideal or self-perception. Men's ideal woman was found to be significantly more active and self-assertive than the ideal that women attributed to them.

In a study of three groups of mature women differing in commitment and persistence in pursuit of

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college goals, Denmark and Guttentag (59) found a positive relationship between level of educational involvement and evaluation of educational activities in relation to self; the more highly involved revealed less discrepancy between real and ideal self-concepts.

Freedman (86) found that 49 Vassar students who were intensively tested and interviewed during the 4 years of college did not value feminine characteristics and behaviors, although most aspired to marriage. The majority (69 percent) also wanted a career and were optimistic about being able to manage both roles. However, they expected to encounter more difficulties than men in the pursuit of a career, mainly because of the need to manage the two roles, but also because of the need not to threaten the egos of significant males (most particularly husbands). Students who were the more intellectual, unconventional, independent, flexible in thinking and outlook, and less traditional and authoritarian in attitudes, were more strongly career-oriented than those who measured lower on these traits.

Tukey (243) found, in a study of 23 junior and senior college women selected as socially-oriented and 25 selected as intellectually-oriented (as measured by the Edwards Personal Preference Schedule and the Rokeach Dogmatism Scale), that the intellectually-oriented group had a greater need for achievement and autonomy and were less conformist in their views than the socially oriented group. However, both groups were equally high on academic performance (mean GPA for each group 3.48) and both had similar needs for heterosexual relationships.

The association between sex role orientation and achievement orientation has been demonstrated by several studies. Houts and Entwisle (115) found a significant relationship between academic achievement and "masculine" sex-role orientation in 400 10th-grade girls. French and Lesser (87) found that anxiety over feminine role performance and femininity correlated with need for academic achievement, but found no correlation between lack of anxiety and achievement. Matthews and Tiedeman (153) found that the major influences on a woman's patterns of participation, aspiration, and achievement during adolescence and early adulthood were, in order of importance: Perception of male response to the use of her intelligence, conflict over the acceptance of male dominance in occupational pursuits and the "place" of women in the home, perception of conflict between the demands of family and work on the married career woman, uncertainty regarding the timing of dating and marriage, and general acceptance of the feminine role. Rand (197) found, in over 800 female freshmen in 28 colleges, that career-oriented women used characteristics of both sexes to define their sex role, while homemaking-oriented women tended to define their sex role according to stereotyped feminine characteristics. Personality measures reflected these differences in concepts of sex role.

In general, there seems to be some generalized tendency for women to value stereotyped feminine characteristics less highly than stereotyped masculine characteristics, to incorporate the former in their self-concepts, and thus perhaps to devalue themselves as compared to males. There is also a marked range of variation among women in the extent to which they conceive of themselves and their roles in terms of stereotyped femininity. This range appears to be mirrored in a wide range of educational aspirations and attainments. However, one reason for the wide variation in findings is probably the wide variation in research designs employed, including types of measures used and populations sampled.

MOTIVATION FOR ACHIEVEMENT

There is a general assumption that aspiration level and motivation for achievement are associated, although research on the characteristics of motivation (e.g., McClelland *et. al.* (155) and Horner (113)) suggests that the relationship is complex. Sources cited earlier (e.g., Baird (22), Austin and Panos (119), American Council on Education (7), National Center for Education Statistics (181)) indicate that the educational attainments of women are lower than those of men, and thus women's educational aspirations may also be lower. However, the participation of women in higher education has been increasing more rapidly than that of men in recent years (183) so that there does not appear to be a constant relationship between the aspiration levels of men and those of women. It seems unlikely that this variability can be explained by such social characteristics as class, income level, ethnicity, and race, or by sex differences in intellectual development. Are there, then, patterns of interaction among individual characteristics, social and institutional circumstances, and motivation for achievement that might help explain shifts in educational levels and the aspiration levels these probably reflect? There are studies indicating that such patterns exist, although their outlines are not as yet clear.

Age is an individual characteristic whose association with aspiration level and achievement motivation has

been examined in several studies. Smith and Herr (230) studied 2,150 8th- and 10th-grade students using a measure of vocational maturity that tapped self-knowledge, ability to eliminate conflicts between various courses of action, recognition of means-to-ends relationships, involvement in the choice process, orientation toward future work, independence in decision-making, preferences for various vocational choice factors, and perceptions of the vocational choice process. They found that both 8th-and 10th-grade females possessed more mature attitudes toward work and career planning than did males in the same grades. The authors noted, however, that girls may need more specialized counseling to link their superior vocational maturity with perceptions of vocational opportunities.

Rand and Miller (198) studied three samples of 60 girls each from a junior high school, a senior high school, and a college, representing a cross-section of socioeconomic class and scholastic ability. They found that 95 percent of the junior high school girls planned to go to college but the proportion decreased to 60 percent between the 11th and 12th grades. (Project TALENT, a national longitudinal study of career development, found that 43 percent of women actually attended college within 5 years after high school (84).) Among the college women, 52 percent gave, as the most important reason for attending college, preparation for a specific occupation, and 11 percent indicated financial independence. Ninety-one percent thought their parents' reasons for wanting them to go to college were comparable to their own. Only 2 percent indicated they were in college to find a suitable mate" and only 21 percent gave [illegible] reasons the enjoyment of learning or the desire to increase knowledge. Only a minority of the junior high, senior high, and college students did not expect to have a career, either continuous or interrupted by childrearing. The authors note that their findings are very different from those of Empey's study (73) in which 80 percent of the high school and college female subjects expressed a preference for marriage over a career. On the other hand, their findings were consistent with those of Project TALENT (84) that 90 percent of the female subjects in their national sample had definite career interests. Subjects in the Rand and Miller study were drawn from small cities in Appalachia, supposedly isolated from cultural norms for educational attainment; the authors noted that further analysis of data from Project TALENT might determine whether population density, rather than geographical region, is positively correlated with higher aspiration levels for education and career among young women. The great majority of subjects in this study, like the female subjects of the Project TALENT study, aspired to careers in traditionally women's occupations.

Lubetkin and Lubetkin (179) measured achievement motivation in five different groups of university students (based on the percentage of uncompleted tasks assigned in the experimental situation that was recalled minus the percentage of completed tasks recalled.) The groups consisted of 19 undergraduate males and 19 undergraduate females whose mean ages were 19.2 and 18.8 respectively, 19 male and 19 female graduate students whose mean ages were 25 and 24.9 respectively, and 19 female graduate students whose mean age was 40.6 years (with a mean elapsed time of 15.8 years between completion of the undergraduate degree and the beginning of graduate work). All groups were randomly selected volunteers. The older graduate women had a significantly higher achievement motive than younger graduate women or undergraduate women, but not higher than the males. This study suggests a clear relation between age and achievement motivation in women, as both feminists (e.g., Friedan (88)) and some theorists of the psychology of women (e.g., Bardwick (23)) have suggested.

Psychologists suggest that this possible relationship may be due to the fundamental sources of motivation in women. Groth (98), studying the needs of gifted girls and women with Maslow's need hierarchy, found that from age 14 to about age 40, females were chiefly concerned with "love and belongingness"; after that their "self-esteem" and "self-actualization" needs became more dominant. Douvan (68) commented:

> . . .needs for love and interpersonal intimacy are dominating motives in women. . .women define themselves and derive self-esteem largely by their relationship to others. . .anything that threatens those crucial relationships—whether it be individual success, competitiveness, or personal standards regarding sex—will create conflict and anxiety in the woman and will be avoided in reality or by means of psychological denial.

Bardwick (23) commented however:

> . . .many of these negative feelings (motives, anxieties, guilts, fears, low self-esteem) result from society's preference for and reward of occupational achievement and its inhibition of women through legislation, hiring practices, differential pay and prestige, the lack of child care

facilities, and so on. This inevitably leads to anger, especially among aware and educated women...

Eyde (78) studied seniors of the class of 1958 and alumnae of the 1953 class of Jackson College, Tufts University. She found that among the factors related to career motivation were work values as measured on a scale that she developed. For the younger women, values of dominance and recognition were related to high motivation; for the older women, "masculine" work values of interest and mastery were related positively to higher levels of motivation. Women with lower levels of motivation among the older group had "feminine" work values, including a desire to regain autonomy lost in homemaking and a desire to meet more people through work outside the home.

Wolfe (271), using a scale very similar to Eyde's but a much larger and more demographically diverse sample, found that all of the women in her sample placed high value on mastery-achievement in work; this finding, which crossed all demographic variables, strongly suggests that career motivation is lowered by a failure to perceive that work will provide a sense of accomplishment and satisfaction.

Perhaps the most discussed research on women's achievement motivation is that of Horner and her colleagues. A popular interpretation of her findings is that women have a "will to fail," or, in other words, a motive to seek failure. Horner (113) herself pointed out, however, that this was *not* her finding. Rather, she believed that her data indicated that women possess a motive to avoid success, or a "fear of success":

> (Women's) positive achievement-directed tendencies are inhibited by the presence of the motive to avoid success because of the arousal of anxiety about the negative consequences they expect will follow success (114).

The instrument she has used is a version of the Thematic Apperception Test, designed to elicit stories that reveal the level of motivation to achieve and the level of anxieties associated with achievement.

She found that, of four variables associated with achievement strivings in women—the motive to achieve, the motive to avoid failure, the motive to affiliate with others, and the motive to avoid success—the motive to avoid success appears to be the most potent:

> ...girls high in the motive to avoid success performed at a significantly lower level in a mixed-sex competitive achievement situation than they did subsequently in a strictly non-competitive but achievement-oriented situation, in which the only competition involved was with the task and one's internal standards of excellence.
>
> Those low in the motive to avoid success...performed at a higher level in the competitive condition, as did most of the men in the study. The results...suggest very clearly that girls, especially those with a high motive to avoid success, would be least likely to develop their interests and explore their intellectual potential when competing against others, especially against men, because the expectancy of negative consequences associated with success would be greatest under such conditions (113).

When a verbal lead was used to assess the presence of "fear of success," 65 percent of the 90 female stories written, compared with fewer than 10 percent of the 88 male stories written, contained imagery connoting fear of success. However, consistent with other data on race differences, a reversal was found in fear of success imagery in black samples; fear of success was more characteristic of the black man than of the black woman.

Horner (113) reported age differences in the incidence of the motive to avoid success in females; this ranged from a low of 47 percent among 7th graders to a high of 87 percent among current law school students and among secretaries who had been very able high school graduates. In college samples, the incidence ranged from 60 percent for college freshmen at a large Midwestern university to 85 percent for very high ability juniors at an outstanding Eastern coed university where the emphasis on achievement was very high. Among juniors at a highly selective women's college, whose students "are chosen primarily because of their ability, achievement, motivation, and previous success...and arrive at school very ambitious and committed to the idea of distinguishing themselves in a future career," Horner (113) found the incidence of fear of success to be 75 percent in one sample and 85 percent in the second.

Horner's research directs attention to several curious phenomena associated with women's motivation to achieve. First, the motive to avoid success appears most likely to be aroused in high-achievement-oriented, high ability women, rather than in low-achievement-oriented, low-ability women; in other words, only those

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women who desire and can realistically expect success are meaningfully aware of its negative consequences. As Horner (113) pointed out, this is consistent with expectancy-value theory. Second, the older the high-ability, high-achievement-oriented woman (in the age range from about 12 to 25 years), the more likely she is to have the motive to avoid success; in other words, the closer, or more "real," the possibility of achievement (success), the more fearful it becomes—a finding consistent with conflict theory. Third, the perceived or real attitudes of male peers appears to be the most powerful influence on the arousal of the motive to avoid success; attitudes of parents, including their shift, during the college years, from expectation of achievement to expectation of marriage, was not a significant factor; in fact, some girls were motivated to achieve by perceiving nonachieving mothers as negative role models. The presence in a woman's life of significant male peers who support her success strivings is significantly associated with low fear of success in some cases, and with continuous achievement striving in others despite the presence in women of dependency on others for their self-esteem and lack of confidence in their ability to function autonomously. Finally, there is no simple, one-to-one relationship between women's achievement motivation and their perception of the female role; rather, female achievement motivation is a function of complex interactions among a variety of personality and situational factors.

Horner's research and her interpretations of the data have not escaped criticism. The most fundamental criticism stems from the fact that her measures are derived from McClelland's (155) which were developed on the basis of standards derived from the achievement strivings of men. Doherty (62) commented:

> Horner's investigations have indicated that the phenomenon, "motive to avoid success," is more prevalent in women than in men. Although the publicity accorded this research focussed needed attention on the familial and professional conflicts experienced by women, a larger question is involved. An assessment of the current status of research in motivation has been defined largely as a masculine construct based upon male values of competition. To discover, then, that women are not "motivated," that is, that they are not like men, says nothing about motivation in women. Indeed it is questionable whether current definitions and research in motivation-as-competition yield data appropriate to understanding men today.

Clearly, aspiration level, as measured by educational enrollment and even by educational attainment, is not directly associated with motivation to achieve—high-ability, high-achievement-oriented women in selective colleges can also be high in motive to avoid success. From puberty to early adulthood, fear of success appears to increase with age, according to Horner's findings, while the Lubetkins' findings, derived from a different measure of achievement motivation, suggest that achievement motivation is higher in mature women students than in younger ones. Attitudes of male peers appear to be critical in early adulthood; evidence that they are equally significant in later life is not clear, since by this stage women's motivation to achieve may find many outlets outside education or career, as Doherty implied.

PSYCHOLOGICAL CORRELATES OF SOCIALIZATION PRACTICES

Review of a representative sampling of material on psychological correlates of socialization practice is far outside the scope of this publication. Even a modest sampling of data and theory relevant to women's educational participation is too large an undertaking for a limited review of this type, for the materials available are legion. Therefore, this section will focus on only the most salient findings and related theoretical issues.

Maccoby (148) reviewed evidence on environmental contributions to sex differences in intellectual development. She concluded from available evidence that sex-typed attributes of personality and temperament (e.g., aggressiveness, independence, passivity) associated with sex differences in intellectual functioning are the product of interaction between differential social demands by socializing agents (parents, schools, etc.) and those biological determinants that "help to produce or augment differential cultural demands upon the two sexes" (e.g., hormonal influences, anatomical differences in intellectual performance. Sex-typed play among social groups in the stereotypes of "feminine" and "masculine" behaviors raise the question of whether these differences are associated with sex differences in intellectual performance. Sex-typed play activities are more frequent in "traditional" than in "modern" schools. An experimental attempt to increase women's problem-solving was successful (activities of men in the experimental group did not increase).

Maccoby (149) reported that research on the

interaction between parents' socialization practices and children's intellectual performance indicated that "the same environmental input affects the two sexes differently, and that different factors are associated with optimal performance for boys and girls." For boys, warmth and protection from the mother in early childhood correlate with superior intellectual ability in later years; for girls, the correlation is with maternal behaviors that encouraged independence during the early years (see also Bayley (25)). Supportive behavior from the father (but not father's pressure for school achievement) correlated with academic success in daughters. Maccoby noted that the difference may be a function of different strengths and weaknesses genetically endowed in the sexes, and therefore different influences tend to counteract weaknesses and augment strengths.

Environmental input may have a more significant impact on the intellectual development of boys than of girls; the intellectual development of girls seems to have a larger component of genetic control (25). Parental encouragement of non-sex-typed activities for girls may correlate with drive for intellectual achievement. Theories of "identification" and modeling probably do not constitute an adequate explanation of sex differences in intellectual abilities, such as verbal skills. Passivity-dependency, often encouraged in girls, may interfere with analytic thinking and with some elements of creativity. Because a high level of anxiety is negatively correlated with intellectual performance for girls but not for boys, parental behaviors raising the level of anxiety in girls can be detrimental to intellectual performance.

Sherman (221), in a review of theory and research pertaining to moral and sex role development, noted that one of the factors associated with girls' sex role acceptance is level of cognitive development. Other associated factors are the relative power and nurturance of the two parents, the child's ordinal position in the family, and the age, sex, and status of siblings. Older daughters are more apt to identify with the mother; first-born females may be more dependent than younger female siblings; but girls with older brothers or with one brother in a two-child family tend to have less traditional views about the feminine role. Generally apeaking, evidence indicates "that girls and women accept their sex-role with less enthusiasm than do men."

Lewis (143) reported that observation of the behavior of fathers and mothers toward their infants during the first 3 weeks and the first 12 weeks of life indicates that types of parental attachment behavior varies by the infant's sex. For example, mothers talk more to girls than to boys, but during the first 6 months hold and fondle boys more than girls; after that age, the situation is reversed. Lewis suggested that these parental behaviors are reflected in the children's sex differences in later behavior; for example, the greater tendency of men to maintain physical distance from others and the greater verbal fluency of women.

Another source of environmental input is the school. Previous sections have dealt with the possible effects of teachers and counselors upon intellectual development, educational aspiration, and eventual achievement. Feminists have strongly attacked sexist books for young children as a critical factor in sex-role development and the possibly associated development of intellectual capability and motivation to achieve. Weitzman and her colleagues (260) analyzed picture books for preschool children that had won or were runners-up for the highly prestigious Caldecott award for a recent 5-year period. In the 18 books studied, males overwhelmingly predominated in every way—in pictures, in titles, and in characters. The ratio of pictures of male animals to female animals was 95:1; the ratio of pictures of human males to females was 11:1. The authors pointed out that this kind of material begins to undermine girls' development of full potential very early in life. Schlossberg and Goodman (213) found that children sex-type occupations as early as kindergarten and maintain these stereotypes relatively unchanged through 6th grade.

Many other agents are involved in the socialization of children—the community (Brownies, Cub Scouts, and Little League), and the media, especially television. There was yet no data available which would clarify the relationship between such influences and the development of intellectual and career interests in women. Like the other relationships previously discussed, these are undoubtedly extremely complex and the early influence of parents may mediate the impact of these factors by modifying the type of response elicited by the stimuli.

Because the interrelationships among biological sex differences, parental behaviors, environmental resources, personality attributes, family composition, role expectations, self-concept, developmental patterns of intellectual capacities, motivation to achieve, and eventual attainments are so complex, we can draw no general conclusions about the impact of socialization practices on women's educational participation, except to say that these are not without effect.

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SUMMARY–PSYCHOLOGICAL FACTORS

Perhaps no broad area of research pertinent to women's educational participation offers more tempting leads than does the psychology of sex differences and the psychology of development. Data now available offer no fully adequate explanation of the phenomenon of women's slowly but steadily rising participation and attainment in education and in careers, occuring concurrently with a persistent tendency of women, including highly able women, to turn away from achievement and toward domesticity, even in the face of a steadily rising divorce rate and growing pressures for population control.

V. CONCLUSION

Thorough, comprehensive research that would help to lower barriers to women's participation in postsecondary education is not yet available. Currently available data have been generated chiefly by small studies on limited and sometimes ill-defined populations. Almost all research is concerned with higher education and little attention has been given to women's patterns of participation (and barriers to their participation) in postsecondary vocational and technical education. Studies (using national probability samples of institutions of all types) regarding practices that may discourage the participation of women are needed. Also needed are studies of national samples of women, from middle adolescence through late adulthood, to ascertain the level of focus of their educational aspirations and their perceptions of barriers to fulfillment of these aspirations. Of equal importance are studies to examine the operation of environmental factors, including not only social class, income, family background, and previous education, but geographical region, type of residential area, community attitudes, and communication facilities.

Continued research on the individual development of women is also clearly required. Particularly important is research concerning the operation of parental and early school influences on the various aspects of this development and the interrelationships of these influences. More data is needed about patterns of women's development in adulthood.

The Carnegie Commission's report, *Opportunities For Women In Higher Education* (42), contains the following observation: "The years involved (in bearing and rearing children) are commonly years of high energy and fervent intellectual curiosity, and they can seldom be regained. . .unfortunately the years of high intellectual fertility in some fields and high childbearing fertility overlap in the same period of life." In fact, however, there is no conclusive evidence available that this is the case for women; studies of women's intellectual development and productivity during the adult years should be given very high priority, since opportunities for education and intellectual employment for older women may be limited by the assumption that, intellectually speaking, they are "over the hill."

On the basis of this review, there is some justification in concluding that there are barriers to women's participation in postsecondary education, and that they are a function of institutional practices, social constraints, and individual attributes and developmental experiences. Institutional practices are the barriers most readily accessible to modification at this time. Changes in institutional practices that raise the level of women's postsecondary educational participation will in time reduce social and psychological barriers.

BIBLIOGRAPHY

1. Acker, Joan. Women and Social Stratification: A case of intellectual sexism." *American Journal of Sociology*, 1973, 78: 936-945.

2. Aldous, Joan. "Wives' Employment Status and Lower-Class Men as Husband-Fathers: Support for the Moynihan Thesis." *Journal of Marriage and the Family*, 1969, 31: 469-476.

3. Almquist, E.M. and Angrist,S.S. "Career Salience and Atypicality of Occupational Choice Among College Women." *Journal of Marriage and Family*, May, 1970, 242-249.

4. _____: "Role Model Influences on College Women's Career Aspirations." *Merrill-Palmer Quarterly*, 1971, 71: 263-279.

5. American Association of University Women. "What To Do About Discrimination." *AAUW Journal*, November, 1970, 10-13.

6. "American Council Follow-Up of 1967 Freshman." *Chronicle of Higher Education*, April 2, 1972, 1.

7. American Council on Education. *A Fact Book on Higher Education*. Washington, D.C.: American Council on Education, 1972.

8. _____. *National Norms For Entering Freshmen: Fall 1968*. Washington, D.C.: American Council on Education, 1968.

9. _____. *National Norms For Entering Freshmen: Fall 1969*. Washington, D.C.: American Council on Education, 1969.

10. _____. *National Norms for Entering Freshmen: Fall 1970*. Washington, D.C.: American Council on Education, 1970.

11. _____. *National Norms for Entering Freshmen: Fall 1971*. Washington, D.C.: American Council on Education, 1971.

12. _____. *The American Freshman: National Norms For Fall 1972*. Washington, D.C.: American Council on Education, 1972.

13. American Medical Women's Association. *The Fuller Utilization of the Woman Physician*. The President's Study Group on Careers for Women. Women's Bureau, U.S. Department of Labor. Washington, D.C.: U.S. Government Printing Office, 1968.

14. *American Women: Report of The President's Commission on the Status of Women*. Washington, D.C.: U.S. Government Printing Office, 1965.

15. Anastasi, Anne. "Sex Differences." *Differential Psychology*, 3rd ed., New York: The MacMillan Company, 1958.

16. Arnott, Catherine C. "Husbands' Attitude and Wives' Commitment to Employment." *Journal of Marriage and the Family*, 1972, 34: 673-684.

17. Association of American Law Schools and Law School Admission Test Council. *Pre-Law Handbook: The Official Guide to Law Schools*. Washington, D.C.: Association of American Law Schools, 1971.

18. Astin, H.S. *Personal and Environmental Factors in the Career Decisions of Young Women*. Washington, D.C.: Bureau of Social Research, 1970.

19. _____. *The Woman Doctorate in America*. New York: Russell Sage, 1969.

20. Attwood, Cynthia. *Women in Fellowship and Training Programs*. Washington, D.C.: Association of American Colleges, 1972.

21. Backman, Margaret E. "Patterns of Mental Abilities: Ethnic, Socioeconomic, and Sex Differences." *American Educational Research Journal*, 1972, 9:1-12.

22. Baird, Leonard L., Clark, M., and Hartnett, R. *The Graduates: A Report on the Characteristics and Plans of College Seniors.* Princeton, New Jersey: Educational Testing Service, 1973.

23. Bardwick, J.M. *Psychology of Women.* New York: Harper and Row, 1971.

24. Baruch, R.W. "The Achievement Motive in Women." (Unpublished doctoral dissertation.) Harvard University, 1966.

25. Bayley, Nancy. "Behavioral Correlates of Mental Growth: Birth to Thirty-Six Years." *American Psychologist*, 1968, 23: 1-17.

26. _____. "Individual Patterns of Development." *Child Development*, 1956, 27: 45-74.

27. Bernard, J. *Academic Women.* State College, Pennsylvania: Pennsylvania State University, 1964.

28. Berry, Jane B. "The New Womanhood: Counselor Alert." *Personnel and Guidance Journal.* 1972, 51: 105-108.

29. Bikman, M. "Where Do All the Women Ph.D.'s Go?" *Women's Liberation: Blueprint For The Future.* ed. S. Stambler. New York: Ace Books, 1970.

30. Blackwell, G.W. "The College and the Continuing Education of Women." *Educational Record.* 1963, 44: 33-39.

31. Bogen, J.E., *et. al.* "The Other Side of the Brain IV: The A/P Ratio." *Bulletin of the Los Angeles Neurological Societies*, 1972, 37: 49-61.

32. Broverman, Inge K., *et. al.*, "Sex-role Stereotypes and Clinical Judgments of Mental Health." *Journal of Consulting and Clinical Psychology*, 1970, 34: 1-7.

33. Brown, Robert D., Winkworth, J., and Braskamp, L. "Student Development in a Coed Residence Hall: Promiscuity, Prophylactic, or Panacea?" *Journal of College Student Personnel*, 1973, 14: 98-104.

34. Bullough, Vern L. *The Subordinate Sex: A History of Attitudes Toward Women.* Urbana, Illinois: University of Illinois Press, 1973.

35. Bunting, M., Graham, P.A., and Wasserman, E.R. "Academic Freedom and Incentive for Women." *Education Record*, 1970, 51: 386-391.

36. Bureau of Labor Statistics. "Marital and Family Characteristics of the U.S. Labor Force." *Monthly Labor Review*, May, 1970.

37. Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1957.* Washington, D.C.: U.S. Government Printing Office, 1960.

38. Bureau of the Census. *Statistical Abstract of the United States: 1970.* Washington, D.C.: U.S. Government Printing Office, 1970.

39. Bureau of the Census, *Statistical Abstract of the United States: 1971.* Washington, D.C.: U.S. Government Printing Office, 1971.

40. Caplow, *et. al. The Academic Marketplace.* New York: Basic Books, 1958.

41. Carnegie Commission on Higher Education. *Higher Education and the Nation's Health.* New York: Carnegie Corporation, 1970.

42. Carnegie Commission on Higher Education. *Opportunities for Women in Higher Education.* New York: McGraw-Hill Book Company, 1973 (prepublication copy).

43. Citizen's Advisory Council on the Status of Women. *Women in 1972.* Washington, D.C.: U.S. Government Printing Office, 1973.

44. Cless, E.L. "A Modest Proposal for the Education of Women." *American Scholar*, 1969, 38: 618-627.

45. Cohen, A.C. "Women and Higher Education: Recommendations for Change." *Phi Delta Kappa*, 1971, 53: 164-167.

46. College Entrance Examination Board. *The College Handbook.* New York: College Entrance Examination Board, 1969.

47. Commission on Nontraditional Study (Samuel B. Gould, Chairman). *Diversity by Design (Report of Commission).* San Francisco, California: Jossey-Bass, 1973.

48. Commission on the Status of Women, Kansas State Teachers College. *Report of the Commission.* American Association of University Professors Chapter, 1970.

50. Cope, R.G. "Sex Related Factors and Attrition Among College Women." *Journal of the National Association of Women Deans and Counselors,* 1970, 33: 118-124.

51. Cox, M.B. and VanDusen, W.D. "How Educational Borrowing Affects the Female Student." *College Board Review,* 1969, 71: 28-31.

52. Creager, John A. *The American Graduate Student: A Normative Description.* American Council on Education Reports, Vol. 6, No. 5. Washington, D.C.: American Council on Education, 1971 (cited in Harvey).

53. Cross, K. Patricia. *Beyond the Open Door: New Students to Higher Education.* San Francisco, California: Jossey-Bass, Inc., 1971.

54. _____. "College Women: A Research Description." *Journal of the National Association of Women Deans and Counselors,* 1968, 32: 12-21.

55. _____. *The Undergraduate Woman.* Research Report Number 5. Washington, D.C.: American Association for Higher Education, 1971.

56. _____. "The Woman Student." *Women in Higher Education,* American Council on Education. Washington, D.C.: American Council on Education, 1972, 31-52.

57. _____. Cross, K. Patricia and Jones, J. Quentin. "Problems of Access." *Explorations in Non-Tradition Study,* ed. Samuel Gould and K. Patricia Cross. San Francisco, California: Jossey-Bass Inc., 1972, 39-63.

58. de Beauvoir, Simone. *The Second Sex.* New York: Alfred A. Knoph, 1953.

59. Denmark, Florence L. and Guttentag, Marcia. "Dissonance in the Self-Concepts and Education Concepts of College- and Non-College-Oriented Women. *Journal of Counseling Psychology,* 1967, 14:113-115.

60. Dennis, L.E. (ed.). *Education and a Woman's Life. Report of the Itasca Conference on the Continuing Education of Women.* Washington, D.C.: American Council on Education, 1963.

61. *Discrimination Against Women. Hearings Before the Special Subcommittee of the Committee on Education and Labor, House of Representatives, 1970.* Washington, D.C.: U.S. Government Printing Office, 1970.

62. Doherty, Mary Austin. "Sexual Bias in Personality Theory." *Counseling Psychologist,* 1973, IV: 67-74.

63. Doland, E.F. "Women's Continuing Education: Some National Resources. *Journal of the National Association of Women Deans and Counselors,* Fall 1965: 34-38.

64. _____. "Higher Education for Women: Time for Reappraisal. *Journal of Higher Education,* 1963, 20: 5-31.

65. Doty, B.A. "Why Do Mature Women Return to College?" *Journal of the National Association of Women Deans and Counselors,* Summer 1966: 171-174.

66. Douglass College, Ad Hoc Committee on the Education of Women. *A College Education for Women.* New Brunswick, New Jersey: Douglass College, 1970.

67. Douvan, E. "Internal Barriers to Women." *Women on Campus: 1970.* Ann Arbor, Michigan: University of Michigan Press, 1970.

68. Douvan, E. and Adelson, J. *The Adolescent Experience.* New York: Wiley, 1966.

69. Eckert, R. and Stecklein, J.E. *Job Motivation and Satisfactions of College Teachers.* Washington, D.C.: Government Printing Office, 1961.

70. Education Commission of the States. *National Association of Educational Professors. Research Reports 1 through 9.* Denver: Education Commission of the States, 1968.

71. Educational Testing Service. *Listing of College-Level Achievement Tests.* Princeton, New Jersey: Educational Testing Service, 1970.

72. Edwards, C.N. "Cultural Values and Role Decisions: A Study of Educated Women." *Journal of Counseling Psychology*, 1969, 16: 36-40.

73. Empey, L.T. "Role Expectations of Women Regarding Marriage and a Career." *Journal of Marriage and the Family*, 1958, 20: 152-155.

74. English, R.A. *A Dangerous Experiment.* Ann Arbor, Michigan: University of Michigan Press: 1970, cited in McGuigan, D.G.

75. Epstein, Cynthia Fuchs. "Positive Effects of the Multiple Negative: Explaining the Success of Black Professional Women." *American Journal of Sociology*, 1973, 78: 912-935.

76. _____. *Woman's Place.* Berkeley, California: University of California Press, 1970.

77. Eyde, L.D. "Eliminating Barriers to Career Development of Women." *Personnel and Guidance Journal*, 1970, 49: 24-28.

78. _____. *Work Values and Background Factors as Predictors of Women's Desire to Work.* Columbus, Ohio: Ohio State University, 1962.

79. Faunce, P.S. "Academic Careers of Gifted Women." *Personnel and Guidance Journal*, 1967, 46: 252-257.

80. Feldman, K. and Newcomb, T.M. *The Impact of College on Students.* San Francisco, California: Jossey-Bass, Inc., 1969.

81. Feldman, Saul D. "Impediment or Stimulant? Marital Status and Graduate Education." *American Journal of Sociology*, 1973, 78: 982-994.

82. Fengler, Alfred P. "Effects of Age and Education on Marital Ideology." *Journal of Marriage and the Family*, 1973, 35: 264-271.

83. Fields, Cheryl M. "Colleges Prodded on Sex Bias in Admissions." *Chronicle of Higher Education.* May 21, 1973: 1 - 2.

84. Flanagan, J.C., *et. al. Project Talent: Five years after high school.* Palo Alto, California: American Institutes for Research and the University of Pittsburgh, 1971.

85. Ford Foundation. *The Black American Doctorate.* New York: Ford Foundation, Office of Reports, 1970 (cited by Epstein, 1973).

86. Freedman, Mervin B. "The Role of the Educated Woman: Attitudes of Vassar Students" and "Women and Work." *The College Experience,* e Mervin Freedman, San Francisco, California: Jossey-Bass, Inc., 1967.

87. French, E.G. and Lesser, G.S. "Some Characteristics of the Achievement Motive in Women." *Journal of Abnormal and Social Psychology*, 1964, 68: 119-128.

88. Friedan, B. "Our Revolution is Unique." *Voices of the New Feminism.* ed. M.L. Thompson. Boston: Beacon Press, 1970.

89. Froomkin, J. *Aspirations, Enrollments, and Resources.* Washington, D.C.: U.S. Government Printing Office, 1970.

90. Garai, Josef F. and Scheinfeld, Amram. *Sex Differences in Mental and Behavioral Traits: Genetic Psychology Monographs,* 1968, 77: second half.

91. Ginzberg, Eli and Associates. *Life Styles of Educated Women.* New York: Columbia University Press, 1966.

92. Goldberg, P. "Are Women Prejudiced Against Women?" *Trans-Action*, 1968, 5: 28-30.

93. Goodwin, G.G. "The Woman Doctoral Recipient." (Unpublished doctoral dissertation.) Oklahoma State University, 1966.

94. Gornick, V. and Moran, B.K. (eds.) *Woman in Sexist Society.* New York: Basic Books, 1971.

95. Gould, Jane Schwarts. "Discrimination in Employment." *Barnard Alumnae*, 1970, 59: 29-30.

96. Graham, P.A. "Women in Academe." *Science*, 1970, 169: 1284-1290.

97. Greeley, Andrew. "White Against White: The Enduring Ethnic Conflict." *The White Majority: Between Poverty and Affluence.* ed. Louise Kapp Howe. New York: Random House/Vintage Books, 1970.

98. Groth, N.J. "Vocational Development for Gifted Girls." (Paper presented to the American Personnel and Guidance Association, 1969.)

99. Harmon, Lenore W. "Predictive Power Over Ten Years of Measured Social Service and Scientific Interests Among College Women." *Journal of Applied Psychology*, 1961, 53.

100. _____. "Strong Vocational Interest Blank Profiles of Disadvantaged Women." *Journal of Counseling Psychology*, 1970, 17.

101. _____. "Women's Interests—Fact or Fiction?" *Personnel and Guidance Journal*, 1967, 45: 895-900.

102. Hartnett, Rodney T. *College and University Trustees: Their Backgrounds, Roles, and Educational Attitudes.* Princeton, New Jersey: Educational Testing Service, 1969.

103. _____. "Nontraditional Study: An Overview." *Explorations in Non-Traditional Study.* eds. Samuel Gould and K. Patricia Cross. San Francisco, California: Jossey-Bass, Inc., 1972.

104. Harvard University. *Preliminary Report on the Status of Women at Harvard.* Cambridge, Massachusetts: Harvard University Press, March 1970.

105. Harvey, James. *The Student in Graduate School.* Washington, D.C.: American Association for Higher Education, 1972.

106. Hatch, D.D. "Differential Impact of College on Males and Females." *Women on Campus: 1970.* Ann Arbor, Michigan: University of Michigan Press, 1970.

107. Haven, E.W. and Horch, D.H. *How College Students Finance Their Education.* New York: College Entrance Examination Board, 1972.

108. Hawley, P. "What Women Think Men Think." *Journal of Counseling Psychology*, 1971, 18: 193-199.

109. Hembrough, B.L. "A Two-Fold Educational Challenge: The Student Wife and the Mature Woman Student." *Journal of the National Association of Women Deans and Counselors*, Summer 1966: 163-167.

110. Hernandez, Norma G. "Variables Affecting Achievement of Middle School Mexican-American Students." *Review of Educational Research*, 1973, 43: 1-39.

111. Hilton, T.L. and Berglund, G.W. "Sex Differences in Mathematics Achievement—A Longitudinal Study." *Research Bulletin.* Princeton, New Jersey: Educational Testing Service, 1971.

112. Holmstrom, Engin I. *Low-Income Students: Do They Differ From "Typical" Undergraduates?* ACE Research Reports, 8. Washington, D.C.: American Council on Education, 1973.

113. Horner, Matina S. "The Motive to Avoid Success and Changing Aspirations of College Women." (Proceedings of a Symposium, October 14, 1970). *Women on Campus: 1970.* Ann Arbor, Michigan: University of Michigan Press, 1970.

114. Horney, Karen. *Feminine Psychology*, ed. Harold Kelman. New York: W.W. Norton, 1967.

115. Houts, Peter S. and Entwisle, Doris R. "Academic Achievement Effort Among Females: Achievement Attitudes and Sex Role Orientation." *Journal of Counseling Psychology*, 1968, 15: 284-286.

116. Hsu, Francis L.K. "Patterns of Family and Psychological Orientation." *Clan, Caste and Club.* ed. Hsu. Princeton, New Jersey: Van Nostrand, 1963.

117. Hunter, J. Scott. *The Academic and Financial Status of Graduate Students, Spring 1965.* Washington, D.C.: U.S. Government Printing Office, 1967.

118. Husbands, Sandra Acker. "Women's Place in Higher Education?" *School Review*, 1972, 80: 261-274.

0000

119. Jacobson, R.F. "New Scholarships for Mature Women." *Junior College Journal*, 1967, 38: 34-35.

120. Janeway, Elizabeth. *Man's World, Woman's Place: A Study in Social Mythology*. New York: William Morrow, 1971.

121. Johnstone, J. and Rivera, R. *Volunteers for Learning*. Chicago, Illinois: Aldine, 1965.

122. Jung, C.G. *Psychology and Alchemy*, trans. R.F.C. Hull, *Collected Works of C.G. Jung*, Volume 12, New York: Pantheon Books, 1953.

123. Kagan, Jerome and Freeman, M. "Relation of Childhood Intelligence, Maternal Behaviors, and Social Class to Behavior During Adolescence. *Child Development*, 1963, 34: 899-911.

124. Kagan, J. and Moss, H. *Birth to Maturity*. New York: Wiley, 1962.

125. Kampen, I. *Due to Lack of Interest Tomorrow Has Been Cancelled*. New York: Doubleday, 1969.

126. Kanowitz, Leo. *Women and the Law*. Albuquerque, New Mexico: University of New Mexico Press, 1969.

127. Katz, J., Comstock, P., and Lozoff, M.M. *Educational and Occupational Aspirations of Adult Women*. Stanford, California: Stanford University Press. 1970.

128. Keiffer, M.G. and Warren, P.A. "Population Limitation and Women's Status." *Research Memorandum, 70-13*. Princeton, New Jersey: Educational Testing Service, 1970.

129. Kimmel, Ernest W. "Problems of Recognition." *Explorations in Non-Traditional Study*. eds. Samuel Gould and K. Patricia Cross. San Francisco, California: Jossey-Bass, Inc., 1972.

130. Keniston, Ellen and Keniston, Kenneth. "An American Anachronism: The Image of Women and Work." *American Scholar*, 1964, 33: 355-375.

131. Knoell, Dorothy M. *People Who Need College*. Washington, D.C.: American Association of Junior Colleges, 1970.

132. _____. and Medsker, Leland L. *From Junior to Senior College: A National Study of the Transfer Student*. Washington, D.C.: American Council on Education, 1965.

133. Komarovsky, Mirra. *Blue Collar Marriage*. New York: Random House, 1962.

134. _____. "Women's Roles: Problems and Polemics." *The Challenge to Women*. eds. S. Farber and R. Wilson. New York: Basic Books, 1966.

135. Kreps, Juanita. *Six in the Market Place: American Women at Work*. Baltimore, Maryland: Johns Hopkins Press, 1971.

136. Kresge, P. "The Human Dimensions of Sex Discrimination." *AAUW Journal*, November 1970: 6-9.

137. Kusnetz, Ella and Barbara." The Status of Women at Cornell, 1969." (Paper submitted to the Special Subcommittee on Education of the Committee on Education and Labor of the House of Representatives, and published in the Hearings of the Subcommittee, 1970.)

138. Kuvlesky, William P. and Obordo, A.S. "A Racial Comparison of Teen-Age Girls' Projections for Marriage and Procreation." *Journal of Marriage and the Family*, 1972, 34: 75-84.

139. Lee, Sylvia L., *et. al. Implications of Women's Work Patterns for Program Development in Vocational and Technical Education*. Columbus, Ohio: Ohio State University Center for Vocational and Technical Education, 1967.

140. LeFevre, Carol. "The Mature Woman as Graduate Student." *School Review*, 1972, 80: 281-297.

141. Lever, J. and Schwartz, P. *Women at Yale*. New York: Bobbs-Merrill, 1971.

142. Lewis, E.C. "Choice and Conflict for the College Woman." *Journal of the National Association of Women Deans and Counselors*, 1969, 32: 176-182.

143. Lewis, Michael. "Parents and Children: Sex-role Development." *School Review*, 1972, 80: 229-240.

144. Lopata, Helena Z. "The Effect of Schooling on Social Contacts of Urban Women." *American Journal of Sociology*, 1973, 79: 604-691.

145. Lord, M.E.M. "Mature Women and the Degree of Doctor of Philosophy." (Unpublished doctoral dissertation.) University of Wisconsin, 1968.

146. Lorenz, Gerda. "Aspirations of Low-Income Blacks and Whites: A Case of Reference Group Processes." *American Journal of Sociology*, 1972, 78: 371-398.

147. Lyon, R. "Married Women and the Academic Tradition." *Journal of Higher Education*, 1964, 35: 251-255.

148. Maccoby, Eleanor. "Sex Differences in Intellectual Functioning." *The Development of Sex Differences*. ed. E. Maccoby. Stanford, California: Stanford University Press, 1966.

149. _____. *The Development of Sex Differences*. Stanford California: Stanford University Press, 1966.

150. Mattfeld, Jacquelyn A. "A Decade of Continuing Education: Dead End or Open Door?" Bronxville, New York: Sarah Lawrence College, 1971. Mimeographed.

151. Mattfeld, J.A. and VanAken, C.G., eds. *Women and the Scientific Professions*. Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1965.

152. Matthews, Esther E. "The Counselor and the Adult Woman." *Journal of the National Association of Women Deans and Counselors*, 1969, 32: 115-122.

153. _____. "Employment Implications of Psychological Characteristics of Men and Women. (Address given at the New York State Psychological Association Conference, November 1970.)

154. Matthews, E.E. and Tiedeman, David V. "Attitudes Toward Career and Marriage and the Development of Life Style in Young Women." *Journal of Counseling Psychology*, 1964, 11: 375-383.

155. McClelland, David C. *et. al. The Achievement Motive*. New York: Appleton, 1953.

156. McGuigan, Dorothy G. *A Dangerous Experiment*. Ann Arbor, Michigan: University of Michigan Press. 1970.

157. Millett, Kate. *Token Learning*. New York: National Organization for Women, 1969.

158. Mitchell, S.B. *Women and the Doctorate*. (Unpublished doctoral dissertation.) Oklahoma State University, 1969.

159. Mitchell, S.B. and Alciatore, R.T. "Women Doctoral Recipients Evaluate Their Training." *Education Forum*, 1970, 34: 533-539.

160. Modern Language Association Commission on Women. *Women in 1971: Affirmative Action – Results of Questionnaire*, 1971.

161. Morgan, D. *Perception of Role Conflicts and Self Concept Among Career and Non-Career Educated Women*. (Unpublished doctoral dissertation.) Columbia University, 1962.

162. Morse, J.A. and Bruch, C.B. "Gifted Women: More Issues Than Answers." *Educational Horizons*, 1970, 49: 25-32.

163. Moynihan, Daniel Patrick. "Employment, Income, and the Ordeal of the Negro Family." *Daedalus*, 1965, 94: 745-770.

164. Muller, K. "Education: The Realistic Approach." *The Challenge to Women*. eds. S. Farber and R. Wilson. New York: Basic Books, 1966.

165. Murray, P. "Economic and Educational Inequality Based on Sex: An Overview." *Valparaiso University Law Review*, 1971, 5: 237-280.

166. Mushkin, S.J. "Public Financing of Higher Education." *Universal Higher Education*. ed. L. Wilson. Washington, D.C.: American Council on Education, 1972.

167. Myers, C.A. "Special Problems Encountered by Mature Women Undergraduates." *Journal of the National Association of Women Deans and Counselors*, 1964, 24: 137-139.

168. National Institutes of Health. *Special Report on Women and Graduate Study.* Resources for Medical Research Report No. 13. Washington, D.C.: U.S. Government Printing Office, 1968.

169. National Organization for Women, Central New Jersey Chapter. *A Preliminary Report on the Status of Women at Princeton University.* Princeton, New Jersey: National Organization for Women, 1971.

170. Newcomer, Mabel. *A Century of Higher Education for Women.* New York: Harper and Brothers, 1959.

171. Newman, Frank, and Members of the Commission. *Report on Higher Education.* Report to the Office of Education. Washington, D.C.: U.S. Government Printing Office, 1971.

172. Oetzel, Roberta M. "Annotated Bibliography and Classified Summary of Research in Sex Differences." *The Development of Sex Differences.* ed. Eleanor Maccoby. Stanford, California: Stanford University Press, 1966.

173. Office of Education. *Developments in Technical and Vocational Education – New Dimensions in Higher Education.* No. 23. By Norman C. Harris. Washington, D.C.: U.S. Government Printing Office, 1967.

174. Office of Education. *Doctor's Degrees Conferred by All U.S. Institutions: by State, Academic Field, Sex, and Institution, 1960-61 Through 1969-70.* By John L. Chase. Washington D.C.: U.S. Government Printing Office, 1972.

175. U.S. Office of Education. "Public Post-Secondary Occupational Education in the United States." In *Trends in Post-Secondary Education.* By Charles V. Mercer. Washington, D.C.: U.S. Government Printing Office, 1970.

176. Office of Education. *Report on Women and Continuing Education.* By Xandra Kayden. Washington, D.C.: U.S. Government Printing Office, September 1970.

177. Office of Education. *Student Services Administration in Higher Education.* Washington, D.C.: U.S. Government Printing Office, 1966.

178. Office of Education. *Women in Education: Issues and Answers for HEW.* Washington, D.C.: U.S. Government Printing Office, 1970.

179. Office of Education, Educational Resources Information Center. *Achievement Motivation in a Competitive Situation: A Comparison of Undergraduates, Younger Graduate Students and Older Female Graduate Students.* By Barry S. Lubetkin and Arvin L. Lubetkin. Washington, D.C.: U.S. Government Printing Office, 1968.

180. Office of Education, National Center for Education Statistics. *Associate Degrees and Other Formal Awards Below the Baccalaureate, 1970-71 (b).* ed. M.E. Hooper. Washington, D.C.: U.S. Government Printing Office, 1973.

181. Office of Education, National Center for Education Statistics. *Earned Degree Conferred, 1970-71 (a).* ed. M.E. Hooper, Washington, D.C.: U.S. Government Printing Office, 1973.

182. Office of Education, National Center for Education Statistics. *Education Directory: Higher Education, 1971-72. Washington, D.C.: U.S. Government Printing Office, 1972.*

183. Office of Education, National Center for Education Statistics. *Fall Enrollment in Higher Education, 1971.* By George S. Wade. Washington, D.C.: U.S. Government Printing Office, 1973.

184. Office of Education, Office of Program Planning and Evaluation. *A Comparative Study of Proprietary and Non-Proprietary Vocational Training Programs.* Volumes 1 and 2. By Jean M. Wolman and Vincent N. Campbell. Washington, D.C.: U.S. Government Printing Office, November 1972.

185. Newman, Unit's Report on Graduate Education. *Chronicle of Higher Education.* March 12, 1973: 1, 17-22 and 18, 22-23.

186. Oltman, R.M. *Campus 1970: Where Do We Stand?* Washington, D.C.: American Association of University Women, 1971.

187. Parrish, John B. "Women in Engineering: Some Perspectives on the Past, Present, and Future." (Paper presented at the Engineering Foundation Research Conference, New England College,

Henniker, New Hampshire, July, 1971.) Mimeographed.

188. Pietrofesa, John and Schlossberg, Nancy K. "The Counselor Bias and the Female Occupation Role." (Paper presented at Galaxy Convention, Washington, D.C., 1969.)

189. _____. "Perspectives on Counselor Bias: Implications for Counselor Education." *The Counseling Psychologist*, 1973, IV.

190. Ploski, H. *The Negro Almanac*. New York: Bellwether, 1967. (Cited by Epstein, 1973.)

191. President's Commission on the Status of Women. *American Women*. Washington, D.C.: U.S. Government Printing Office, 1963.

192. President's Task Force on Women's Rights and Responsibilities, Washington, D.C.: U.S. Government Printing Office, 1970.

193. "Proportion of Young Men in College Falls to Lowest Point Since 1964." *Chronicle of Higher Education*, March 5, 1973: 1.

194. Pullen, D.L. "The Educational Establishment: Wasted Women." *Voices of the New Feminism*. ed. M.L. Thompson. Boston: Beacon Press, 1970.

195. Raines, Max R. *An Appraisal of the New York State Guidance Center for Women*. Albany, New York: State University of New York, 1970.

196. Rainwater, Lee, Coleman, Richard P., and Handel, Gerald. *Working Man's Wife*. New York: Oceana Publications, 1959.

197. Rand, Lorraine. "Masulinity or Femininity? Differentiating Career-Oriented and Homemaking-Oriented College Freshmen Women." *Journal of Counseling Psychology*, 1968, 15: 284-286.

198. Rand, Lorraine M. and Miller, Anna Louise. "A Developmental Cross-Sectioning of Women's Careers and Marriage Attitudes and Life Plans." *Journal of Vocational Behavior*, 1972, 2: 317-332.

199. Randolph, K.S. "The Mature Woman in Doctoral Programs." (Unpublished doctoral dissertation.) Indiana University, 1965.

200. Raushenbush, Esther. "Unfinished Business, Continuing Education for Women." *Educational Record*, 1961, 42: 261-269.

201. "Recommendations of Commission on Nontraditional Study." *Chronicle of Higher Education*. February 5, 1973: 6.

202. Riesman, David. "Some Dilemmas of Women's Education." *Educational Record*, 1965, 46: 424-434.

203. Robinson, Jolly, Paul, Susanne, and Smith, Gloria. *Project Second Start*. New York: John Hay Whitney Foundation, March 1973.

204. Rosenkrantz, Paul, *et. al.* "Sex-Role Stereotypes and Self-Concepts in College Students." *Journal of Consulting and Clinical Psychology*, 1968, 32: 287-295.

205. Rossi, Alice S. "Academic Women in 1973: Progress and Prospects." (Paper prepared for Committee of the American Association of University Professors Annual Meeting, 1973.) Mimeographed.

206. _____. "Women in Science: Why So Few?" *Science*, 1965, 148: 1196-1202.

207. _____. "Barriers to the Career Choice of Engineering, Medicine, or Science Among American Women." *Women in the Scientific Professions*. eds. Jacquelyn A. Mattfeld and Carol G. Van Aken. Cambridge, Massachusetts: Massachusetts Institute of Technology Press, 1965.

208. Ruslink, D.H. "Married Women's Resumption of Education in Preparation for Teaching." (Unpublished doctoral dissertation.) New York University, 1969.

209. Sandler, Bernice. "Sex Discrimination at the University of Maryland." College Park, Maryland: University of Maryland, 1970.

210. Sarah Lawrence College. *Report of Center for Continuing Education for Women*. Bronxville, New York: 1969.

211. Schlossberg, Nancy K. "A Framework for Counseling Women." *Personnel and Guidance Journal*, 1972, 51: 137-146.

212. Schlossberg, Nancy K. and Goodman, Jane. "A Woman's Place: Children's Sex Stereotyping of Occupations." *Vocational Guidance Quarterly*, 1972, 20: 266-270.

213. _____. "Imperative for Change: Counselor Use of the Vocational Interest Blanks." *Impact*, 1972, 2.

214. Schoemer, James R. and McConnell, William A. "Is There a Case for the Freshman Women's Residence Hall?" *Personnel and Guidance Journal*, 1970, 49: 35-40.

215. Schroeder, Charles C. and LeMay, Morris L. "The Impact of Coed Residence Halls on Self-Actualization." *Journal of College Student Personnel*, 1973, 14: 105-110.

216. Schwartz, A.J. "Comparative Values and Achievement of Mexican-American and Anglo-American Pupils." *Eric*, 1969, 4. (Cited by Hernandez, 1973.)

217. Scott, Anne Firos. "The Half Eaten Apple." *The Reporter*, May 14, 1970.

218. _____. ed. *"What Is Happening to American Women?"* Atlanta, Georgia: Southern Newspaper Publishers Association Foundation, 1971.

219. Sells, L. *Current Research on Sex Roles.* Berkeley, California: Sociologists for Women in Society, 1971.

220. Sewell, W.H. and Shah, V.P. "Socioeconomic Status, Intelligence, and the Attainment of Higher Education." *Sociology of Education*, 1967, 40: 1-23.

221. Sherman, Julia A. *On the Psychology of Women.* Springfield, Illinois: Charles C. Thomas, 1971.

222. Shoulders, J. *Junior College–An Attraction to Women.* Columbia, Missouri: University of Missouri, 1968.

223. *Simmons College Bulletin, Annual Report 1972-73.* Boston: Simmons College, 1973.

224. Simon, William and Gagnon, John H. "The White Working Class and Its Youth: An Overview." Institute for Juvenile Research, Chicago, Illinois. (Paper prepared in partial completion of United States Public Health Service, National Institutes of Health Contract 70-511, 1970.) Mimeographed.

225. Simon, R., Clark, S.M., and Tifft, L.L. "Of Nepotism, Marriage, and the Pursuit of an Academic Career." *Sociology of Education*, 1966, 39: 344-358.

226. Simon, R., Clark, S., and Galway, K. "The Woman Ph.D.: A Recent Profile." *Social Problems*, 1967, 15: 221-236.

227. Singletary, Otis A., ed. *American Universities and Colleges.* (10th ed.) Washington, D.C.: American Council on Education, 1968.

228. Slee, F.W. "Feminine Image Factor in Girls' Attitudes to School Subjects." *British Journal of Educational Psychology*, 1968, 38: 212-214.

229. Smith, Alice Kimball. *Radcliffe Institute 1960 to 1971.* Cambridge, Massachusetts: Radcliffe Institute, 1972.

230. Smith, Edward D. and Herr, Edwin L. "Sex Differences in the Maturation of Vocational Attitudes Among Adolescents." *Vocational Guidance Quarterly*, 1972, 20: 177-182.

231. Steinmann, A. and Fox, D.J. "Attitudes Toward Women's Family Role Among Black and White Undergraduates." *Family Coordinator*, October 1970: 363-368.

232. _____. "Male-Female Perceptions of the Female Role in the United States." *Journal of Psychology*, 1966, 42: 265-276.

233. _____. "Self-Concept of College Women Compared With Their Concept of Ideal Woman and Man's Ideal Woman." *Journal of Counseling Psychology*, 1964, 11: 370-374.

234. Stokes, S.L. "Women Graduate Students in Political Science." *Women on Campus: 1970.* Ann Arbor, Michigan: University of Michigan Press, 1970.

235. Sullivan, Karen. "Are Princeton's Women Afraid of Economics?" *Princeton Alumni Weekly*, May 8, 1973: 12-13.

236. Survey Research Services. *A National Profile of Black Youth: Class of 1971.* Minneapolis, Minnesota: National Computer Systems, 1972.

237. Terman, Lewis M. "Psychological Sex Differences." *Manual of Child Psychology.* New York: John Wiley and Sons, 1946.

238. Thomas, Loretta M. "Award of Transfer Credit: Policies and Practices." *College and University,* 1971, 47: 30-35.

239. Thompson, M.L., ed. *Voices of the New Feminism.* Boston: Beacon Press, 1970.

240. Tidball, M. Elizabeth. "Perspective on Academic Women and Affirmative Action." *Educational Record,* Spring 1973: 130-135.

241. Tobias, Sheila. "How Co-Education Fails Women." (Talk given at the University of Delaware, 1971.)

242. Tobias, Sheila, Kusnetz, E., and Spitz, D., eds. *Proceedings of the Cornell Conference on Women.* Ithaca, New York: Cornell University, 1969.

243. Tukey, Ruth S. "Intellectually-Oriented and Socially-Oriented Superior College Girls." *Journal of the National Association of Women Deans and Counselors,* 1964, 27: 120-127.

244. Tyler, Leona E. *The Psychology of Human Differences.* New York: Appleton Century Crofts, 19[illegible].

245. United Negro College Fund Statistical Information, UNCF Office of Development and Educational Services. Report of member institutions of United Negro College Fund, New York: United Negro College Fund, 1964-65.

246. U.S. Department of Health, Education, and Welfare. *Report of the Women's Action Program.* Washington, D.C.: U.S. Department of Health, Education, and Welfare, 1972.

247. U.S. Department of Labor. *Continuing Education Programs and Services for Women.* Washington, D.C.: U.S. Government Printing Office, 1971.

248. _____. *Facts About Women Heads of Households and Heads of Families.* Washington, D.C.: U.S. Government Printing Office, 1973.

249. _____. *1969 Handbook on Women Workers.* Washington, D.C.: U.S. Government Printing Office, 1969.

250. _____. *Trends in Educational Attainment of Women.* Washington, D.C.: U.S. Government Printing Office, 1969.

251. _____. *Women and Work.* Washington, D.C.: Office of Information, Publications and Reports, May 1973.

252. University of California at Berkeley. *Report of the Subcommittee on the Status of Academic Women on the Berkeley Campus.* Berkeley: University of California at Berkeley, 1970.

253. University of Chicago. *Women in the University of Chicago.* 1970.

254. Valley, John R. "External Degree Programs." In Gould and Cross, eds., *Explorations in Non-Traditional Study.* San Francisco, California: Jossey-Bass, Inc., 1972.

255. *Vassar Alumnae News.* January 1973.

256. Wallace, Walter L. *Student Culture.* Chicago, Illinois: Aldine Publishing, 1966.

257. Wallach, Michael A. *Impact of Science on Society,* 1971, 21: 333-345.

258. Walster, E., Cleary, T.A., and Clifford, M.M. "The Effect of Race and Sex on College Admission." *Sociology of Education,* 1971, 44: 237-244.

259. Walton, Barbara J. (with Audrey C. Cohen and Laura P. Houston). "Third Annual Report and Evaluation of the Talent Corps/College for Human Services: 1969 Program." New York: College for Human Services, 201 Varick Street, 1970. Mimeographed.

260. Weitzman, Lenore J., Eifler, Deborah, Kokada, Elizabeth, and Ross, Catherine. "Sex-Role Socialization in Picture Books for Pre-School Children." *American Journal of Sociology,* 1972, 77: 1125-1150.

261. Werts, C. "Sex Differences in College Attendance." National Merit Scholarship Corporation Research Reports, 1966, 2: 1-11.

262. Westervelt, Esther M. "Femininity in American Women. The Influence of Education." *Journal of the National Association of Women Deans and* Counselors, 1971, 35: 2-12.

263. _____. "Study of Needs, Characteristics, and Aspirations of Clients and Non-Clients of the New York State Guidance Center for Women." Research supported by State University of New York, 1970. (Unpublished data.)

264. _____. *Releasing Women's Potentialities: The Two Year College as Catalyst.* Albany, New York: State University of New York, 1969.

264. _____. "Report of the New York State Guidance Center for Women: Report of Operation." Rsearch supported by State University of New York, 1968.

266. _____. "Woman-Power-Want or Waste or Wishful Thinking?" *Vocational Guidance Quarterly*, 1962, 11: 78-84.

267. _____. "Education, Vocation and Avocation in Women's Lives." *What's Happening to American Women.* ed. Anne F. Scott. Atlanta, Georgia: Southern Newspaper Publishers' Association Foundation, 1971.

268. Willingham, W.W. *Free-Access Higher Education.* New York: College Entrance Examination Board, 1970.

269. Wilson, Kenneth M. *A Survey of the Current Status and Plan of Colleges Traditionally for Women Only.* Princeton, New Jersey: College Research Center, Educational Testing Service, 1973.

270. Winkler, Karen J. "Distribution of Student-Aid Funds to the Poor Sparks Controversy." *Chronicle of Higher Education*, November 5, 1973: 1 and 3.

271. Wolfe, Helen Bickel. *Women in the World of Work.* Albany, New York: University of the State of New York, September 1969.

272. *Women on Campus: 1970.* Ann Arbor, Michigan: University of Michigan Press, 1970.

Other Bibliographies on Women's Education

Astin, H.S., Suniewick, N., and Dweck, S. *Women: A Bibliography on Their Education and Careers.* Washington, D.C.: Human Services Press, 1971.

Matthews, Esther. *Bibliography Prepared for Workshop on Counseling Girls and Women Over the Life Span.* Eugene, Oregon: University of Oregon, 1970.

Westervelt, Esther M. and Fixter, Deborah A. *Women's Higher and Continuing Education.* New York: College Entrance Examination Board, 1971.